

IOWA BIRD LIFE

IOWA ORNITHOLOGISTS' UNION





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The Iowa Ornithologists' Union, founded in 1923, encourages interest in the identification, study, and protection of birds in Iowa and seeks to unite those who have these interests in common. Iowa Bird Life and IOU News are quarterly publications of the Union.

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FRONT COVER: Snow Bunting at Cherry Glen RA, Saylorville Lake, Polk Co., 16 November 2003. Photograph by Jay Gilliam, Norwalk, IA.

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Modeling Climate Change's Potential Impacts on the Summer Distributions of Iowa's Passerine Birds

Jeff Price

ABSTRACT

The world is warming. Globally, the average temperature has increased by approximately 1.1°F (0.6°C) over the last 100 years, by nearly 4°F (2°C) in the midwestern United States. The United Nations Intergovernmental Panel on Climate Change (IPCC) projects a further increase in global mean temperatures of between 2.5°–10.4°F (1.4°–5.8°C) by the year 2100. How will this climate change affect the summer distributions of Iowa's passerine birds? Models of changes in the breeding distributions of North American birds project that most species will undergo some range shifts. In Iowa, this could lead to an avifauna with as many as 34 fewer species of passerine birds than currently occur. Data show that many changes have already occurred with earlier arrival dates, breeding dates, and changes in distributions noted in many different taxa from around the globe. Climate change will exert still more pressure on bird populations and force greater challenges onto conservation planners and land managers.

INTRODUCTION

Imagine returning to your car after birding on a hot summer's day. Opening the door, you stagger back as a wave of superheated air blasts out. That videotape of *Rare Birds* you forgot to return now looks like a snowman left in a greenhouse — because it was. The windows of your car acted very much like the glass in a greenhouse, trapping some of the incoming infrared wavelengths of light that then heated up the inside of the car. If the greenhouse effect didn't exist, then the temperature inside your car would not be much higher than the maximum outside temperature that day.

Water vapor, carbon dioxide (CO₂), methane, and other trace gases in the earth's atmosphere act much like the glass in a greenhouse (or your car), helping to retain heat by trapping and absorbing infrared radiation. This "greenhouse effect" acts to keep the earth's surface temperature significantly warmer than it would otherwise be. However, since pre-industrial times, there have been significant increases in the amount of these greenhouse gases in the atmosphere. The current levels of the two primary greenhouse gases are now greater than at any time during at least the past 420,000 years (likely much longer) and are well outside of the bounds of natural variability (IPCC 2001).

Accompanying the increases in greenhouse gases has been an increase in temperature. The 1990s were the warmest decade and the 1900s the warmest century of the last 1,000 years. Of the more than 100 years for which instrumental records are available, 1998 was the warmest year on record and 7 of the top 10 years occurred since 1990. The annual global mean temperature is now 1.1°F (0.6°C) above that recorded at the beginning of the century. Limited data from other sources indicate that the global mean temperature for the Twentieth Century is at least as warm as any other period since approximately A.D. 1400

(IPCC 1996, 2001). There is also “*new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities*” (IPCC 2001). These activities include the burning of fossil fuels, increases in agriculture, and other land use changes (such as deforestation). Increases in greenhouse gases (past and projected), coupled with the length of time these gases remain in the atmosphere, are expected to cause a continued increase in global temperatures. Models estimate that the *average* global temperature, relative to 1990 values, will rise by 2.5°–10.4°F (1.4°– 5.8°C) by the year 2100 (IPCC 2001). Warming due to increases in greenhouse gases is expected to be even greater in some areas, especially Northern Hemisphere land areas. Models based on various scenarios for population growth, economic well being, improvements in technology, and fossil fuel use project overall *average* temperature increases of 3°–18°F (1.7°–10°C) for the United States; 5°–10°F (3°–6°C) in the Midwest (including Iowa). These temperature changes are projected to be highest in the north (Arctic) and in winter with lesser increases in the south and in summer (NAST 2000).

How might these changes impact the summer distributions of passerine birds in Iowa?

“Recent regional changes in climate, particularly increases in temperature, have already affected hydrological systems and terrestrial and marine ecosystems in many parts of the world” (IPCC 2001). For example, there have been changes in growing season, earlier spring green-up, and earlier arrival and breeding in some birds (Root et al. 2003). If these changes have been observed with only a small change (1°F) in the global average temperature, what might happen if the temperature continues to rise? In addition to rising temperatures, many climate models also project an overall increase in evaporation — leading to increases in precipitation (mostly in storms) but also to overall declines in soil moisture and shifts in the timing of precipitation. Even after emissions are reduced, CO₂ concentrations and temperature will continue to rise for a period ranging from decades to centuries. Thus, climate change will likely have a continuing impact on the birds and their habitats in Iowa.

Projected habitat changes

Temperature, precipitation, and soil moisture are important factors limiting the distribution of both plants and animals. As the climate changes so will plant and animal distributions. In general, the geographic range of North American plants and animals will tend to shift poleward and/or upward in elevation in response to temperature increases. Range shifts of wildlife populations will be dependent on factors such as the availability of migration corridors, suitable habitats, and the concurrent movement of forage and prey. Range shifts in plants will be dependent on factors such as soil types, migratory pathways (e.g., no cities blocking the way), seed dispersal mechanisms, and pollinator availability. It is unlikely that plant and animal species will respond in the same manner to climate change. The best available evidence from paleoclimatic studies, models, and observations suggests that each plant and animal species will move independently. Thus, communities as we now know them will look different in the future. There is also sufficient evidence to indicate that many ecosystems have already begun to change in response to observed climatic changes (Root et al. 2003).

Over the next 75 to 100 years, models project possible major changes in the suitable climates of many vegetative communities in Iowa. For example, models project a reduction in the extent of grasslands, and the climate suitable for elm-ash-cottonwood forests potentially becoming more suitable for an increase in oak-hickory forests (NAST 2000). Models

of individual species project potential complete loss of sugar maple, aspen, and hawthorn, but potential gains in species like sycamore, flowering dogwood, yellow poplar, osage-orange, common persimmon, and black and pin oaks (Iverson et al. 1999).

Because many tree species are long-lived and migrate slowly, it could potentially take decades to centuries for species in some vegetative communities to be replaced by others (Davis and Zabinski 1992). However, as increased temperatures and drought stress plants, they become more susceptible to fires and insect outbreaks. These disturbances could play a large role in the conversion of habitats from one type to another. There could very well be instances where existing plant communities are lost to disturbance, but climatic conditions and migration rates limit the speed at which they are replaced. Thus, invasive species, grasslands, and shrublands may transitionally replace the habitats in some of these areas.

Projected changes in bird distributions

Summer bird ranges are often assumed to be tightly linked to particular habitats. This generalization is only partially true. While certain species are usually only found in specific habitats (e.g., Kirtland's Warbler breeding in jack pines), others are more flexible in their habitat use. Examples include species regularly associated with a particular habitat type throughout their range not being found in apparently equivalent habitat north or south of their current distribution; or, a species only being found in apparently suitable habitat in some but not all years. Birds are also limited in their distributions by their physiology and food availability. The link between physiology and the winter distributions of many species is well-established (Kendeigh 1934; Root 1988a, 1988b). Recent research shows that physiology plays some role in limiting summer distributions as well (Dawson 1992; T. Martin, pers. comm.). In some cases, a species' use of a specific habitat may be to provide a microclimate suitable for a species' physiology. Although habitat selection, food availability, and competition may all play a role in influencing *local* distributions of a given bird species, looking at a species' overall distribution often yields strong associations with climate. This study examined the association between summer bird distributions and climate and how these distributions may change with climate change.

METHODS

Logistic regression was used to develop models of the association between bird distributions (from Breeding Bird Survey data) and climate. The climate variables used included average seasonal temperature and precipitation, temperature and precipitation ranges, extreme values (e.g., temperature in the hottest month and coldest months, precipitation in the wettest and driest months), and combinations (e.g., precipitation in the hottest month, temperature in the driest month). These climate variables were viewed as acting as surrogates for the many factors possibly limiting a species distribution (e.g., physiology, habitat, food availability). One way of determining how 'accurate' these models are is to compare how well the predicted species distribution map (Figure 1B) matches a map of the actual distribution (Figure 1A) based on similar bird data (Price et al. 1995). This comparison (and various statistical tests) indicates that the summer distributions of many North American birds can be modeled accurately based on climate alone.

The next step was to examine how bird distributions might change in response to climate change. For this study, climate projections from the Canadian Climate Center (CCC) were used to determine what the average climate conditions might be once CO₂ has doubled, sometime in the next 75 to 100 years. For example, for a given point, the difference in

average summer temperature between the “current” and “future” (both model derived) climate might be $+2^{\circ}\text{C}$. This value is then added to the *actual* average summer temperature at that point to estimate what the climate at that point might be with a doubling of CO_2 . A more complete explanation of methods used to develop the models and maps has been published elsewhere (Price 1995, Price in press).

These results were then used to create maps of the projected possible future climatic ranges for almost all North American passerine birds (Figure 1C). What these maps actually show are areas projected to have the proper climate for the species, or *climatic range*, under conditions derived from the CCC model. While the results of the models cannot be used to look at the fine points of how a given species’ distribution might change, they can provide an impression of the possible direction and potential magnitude of the change in the suitable climate for the species. The maps of potential future summer climatic ranges of birds were then compared with the information found in *Birds in Iowa* (Kent and Dinsmore 1996) to project how the avifauna of Iowa might change under one climate change scenario.

RESULTS

Species whose future climatic summer ranges might exclude Iowa (i.e., possibly extirpated as summer residents): Acadian Flycatcher, Willow Flycatcher, Least Flycatcher, Yellow-throated Vireo, Warbling Vireo, Red-eyed Vireo, Tree Swallow, Bank Swallow, White-breasted Nuthatch, House Wren, Winter Wren, Sedge Wren, Marsh Wren, Gray Catbird, Blue-winged Warbler, Yellow Warbler, Chestnut-sided Warbler, Prairie Warbler, Cerulean Warbler, American Redstart, Ovenbird, Kentucky Warbler, Summer Tanager, Scarlet Tanager, Rose-breasted Grosbeak, Chipping Sparrow, Clay-colored Sparrow, Vesper Sparrow, Savannah Sparrow, Song Sparrow, Swamp Sparrow, Bobolink, Yellow-headed Blackbird, and Pine Siskin.

Species whose future climatic summer ranges in Iowa might contract: Cliff Swallow, Black-capped Chickadee, Tufted Titmouse, Indigo Bunting, Grasshopper Sparrow, Baltimore Oriole, and American Goldfinch.

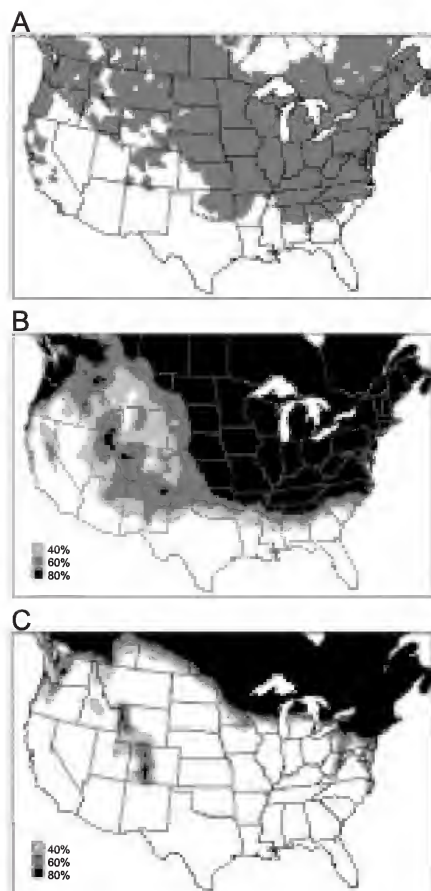


Figure 1. (A) Map depicting the distribution of American Goldfinch as detected by the Breeding Bird Survey. This map is based on one found in Price et al. (1995). (B) Map depicting a **model** of the distribution of American Goldfinch based solely upon the climate of 1985–1989. The scale represents the probability of the species’ occurrence with shaded areas depicting the distribution of the species (i.e., areas with suitable climate). (C) Map depicting the possible distribution of American Goldfinch under the doubled CO_2 climate conditions projected by the Canadian Climate Center. The scale represents the probability of the species’ occurrence — shaded areas depicting the distribution of the species (areas with suitable climate for the species).

Species whose future climatic summer ranges in Iowa might expand: Western Kingbird, Loggerhead Shrike, Bell's Vireo, Bewick's Wren, Northern Mockingbird, Yellow-breasted Chat, Blue Grosbeak, Lark Sparrow, Great-tailed Grackle, and Orchard Oriole.

Species whose future climatic summer ranges might eventually include Iowa: Vermilion Flycatcher, Ash-throated Flycatcher, Scissor-tailed Flycatcher, Chihuahuan Raven, Painted Bunting, Cassin's Sparrow, and Bullock's Oriole.

DISCUSSION

These lists are not all-inclusive, since results obtained from models of some species were not adequate to assess how their climatic ranges might change. Nor do the lists include those species whose climatic ranges may undergo little change. Finally, these lists are based on output from a single commonly used climate model — outputs from different climate models may yield somewhat different results. In addition, the geographic scale of these models, like those of the underlying climate change model, is relatively coarse. As such, the models are unable to take into account the possible existence of suitable microclimates — along rivers, for example. Therefore, some of the species whose *climatic* ranges are projected as shifting out of Iowa may be able to persist in refugia if a suitable microclimate is available.

It is difficult, if not impossible, to say with any certainty whether any particular range expansion is tied to regional climate change. It is only by collecting data on many species' ranges changing in many areas that any degree of confidence can be placed on whether the changes can be attributable to climate (Root et al. 2003). It is also helpful to consider how species' ranges may change to know what sorts of changes to look for in the future. As the average temperature (climate) increases, weather will still occur — some years being cooler and others warmer than otherwise expected. Therefore, colonization will most likely occur in fits and starts before a species can truly be considered to be established as part of the breeding avifauna in Iowa. In some cases, a species may start appearing as a vagrant, off and on, for several years before breeding is attempted. In other cases a species may start breeding in an area, then become extirpated, and then resume breeding — possibly in greater numbers than before.

How quickly distributional changes might occur is unknown — the rate of change will largely depend on whether limits to a given species' distribution are more closely linked with climate (especially temperature), vegetation, or some other factor. The rate of change will also likely be tied to the rate of change of the climate itself. If the climate changes relatively slowly, then species may be able to adapt to the new climate. However, many changes could occur (and are occurring) relatively quickly. One pilot study found that the average latitude of occurrence of some species of Neotropical migrants has already shifted significantly farther north in the last 20 years, by an average distance of almost 60 miles (100 km) (Price and Root 2001; Price, unpublished data). Other studies have found that the arrival date of 20 species of migratory birds in Michigan was 21 days earlier in 1994 than in 1965 (Price and Root 2000; Root, unpublished data), and that Prothonotary Warblers in Virginia are both returning and breeding earlier (Line 2003). Many other species have been found to be arriving and breeding earlier, not only in the United States but also in Europe and elsewhere (Root et al. 2003).

CONCLUSION

Projected future rapid climate change is of major concern, especially when viewed in concert with other population stresses (e.g., habitat conversion, pollution, invasive species). Research and conservation attention need to be focused not only on each stressor by itself, but also on the synergies of multiple stressors acting together. These synergistic stresses are likely to prove to be the greatest challenge to wildlife conservation in the Twenty-first Century. Because anticipation of changes improves the capacity to manage, it is important to understand as much as possible about the responses of animals to a changing climate.

Society may ultimately need to adapt not only to changes in ranges but also to the loss of ecological services normally provided by wildlife. For example, it may be necessary to develop adaptations to losses in natural pest control, pollination, and seed dispersal. While replacing providers of these services may sometimes be possible, the alternatives may be costly. Finding a replacement for other services, such as contributions to nutrient cycling and ecosystem stability/biodiversity, are much harder to imagine. In many cases, any attempt at replacement may represent a net loss (e.g., losses of the values of wildlife associated with recreation, subsistence hunting, cultural and religious ceremonies).

In summary, a high probability exists that climate change could lead to changes in bird distributions. Even a relatively small change in average temperature could impact bird distributions within the state. Some of these changes could occur (and may be occurring) relatively quickly. While these changes may have some ecological and, possibly, economic effects, the magnitude of these effects is unknown. Ultimately, the greatest impact on wildlife and vegetation may not come from climate change itself, but rather from the rate of change. Given enough time, many species would likely be able to adapt to climatic shifts, as they have done in the past. However, the current projected rate of warming is thought to be greater than has occurred at any time in the last 10,000 years (IPCC 1996). This rate of change could ultimately lead to many changes in the avifauna of Iowa.

Birders can help scientists look for and document changes in bird ranges and populations. Besides participating in regular events like the Breeding Bird Survey or Christmas Bird Count, information is also needed on nesting, arrival, and departure. If you, or your club, has 10 or more years of data please contact me at the address listed above.

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Field Reports — Fall 2003

Paul Hertz

WEATHER

It was a very dry August, the second driest in 131 years of record keeping. In fact, had we had 0.02 less inches of rain, it would have been the driest. Particularly hard hit was the northern half of Iowa where many marshes dried up early. Although modest September rains helped, particularly in the southeast, they were not enough to replenish the water in the north. Then, premature cold set in with the first freeze catching green leaves by surprise on 29 September in the northwest. A few days later it dropped to 16 degrees in Mason City, the lowest temperature recorded so early in the fall in 29 years. Although conditions warmed up later in the month of October, and rains were received in the southwest and central, the dryness continued in the north. Then, winter returned for real in early November with 2.5 inches of snow on 2–4 November in the northwest, and a reading of 6 degrees on the 6th. Before the month was over, the season's first subzero reading occurred in O'Brien County. Wetlands that still held water were freezing fast, if not already frozen.



Paul Hertz

HABITAT, GENERAL TRENDS

The dryness across the northern half of the state was unusual. Dennis Carter reported he had never before seen Pool #4 at Cardinal Marsh dry. In Cerro Gordo County, Miller's Marsh south of Ventura became dry land, as did Teal Basin, Knutson's Pond, most of Mallard Marsh, and a substantial portion of Zirbel Slough. Union Slough NWR in Kossuth County dried up completely around and north of the headquarters. Lee Schoenewe reported Garlock Slough in Dickinson County went bone dry, something he could not remember happening in the 40 years he has been taking notice. One result was the goose and dabbling duck migrations were uneventful. For instance, apart from birds counted at Hitchcock NA, there was only one Ross's Goose reported in the state, and no Greater White-fronted Geese. On the other hand, deep water divers were on display, especially at Saylorville Reservoir. A Red-throated Loon was found there, and Dennis Thompson remarked that the Common Loon and Horned Grebe presence was the best he could remember. All three scoters floated in easy view and up to eleven Long-tailed Ducks joined them by late November.

The shorebird migration was also best in the central part of the state, especially at Pinchey Bottoms at Red Rock Reservoir. Thousands of shorebirds refueled there, including two Red Knots, four Western Sandpipers, and a Ruddy Turnstone. Coralville Reservoir in Johnson County was another good spot with Piping Plover, Hudsonian Godwit, and another Western Sandpiper. An impressive eleven species of gulls were reported across the state.

The songbird migration, in general, seemed on time, but unmarked by special events. Carter remarked that the lack of storms during the critical period resulted in a rather light

vireo and warbler migration. Returning early were a Varied Thrush, a Yellow-rumped Warbler, a lone Lapland Longpur, a Rusty Blackbird, and three Brewer's Blackbirds. Late leaving were an Eastern Kingbird, a Common Yellowthroat, and an Orchard Oriole. Species whose ranges may be expanding or that were found out of their usual ranges were Eurasian Collared-Dove (spreading), Acadian Flycatcher (reported from the far north), Carolina Wren (north and west), and Eurasian Tree Sparrow (expanding north along the Mississippi River).

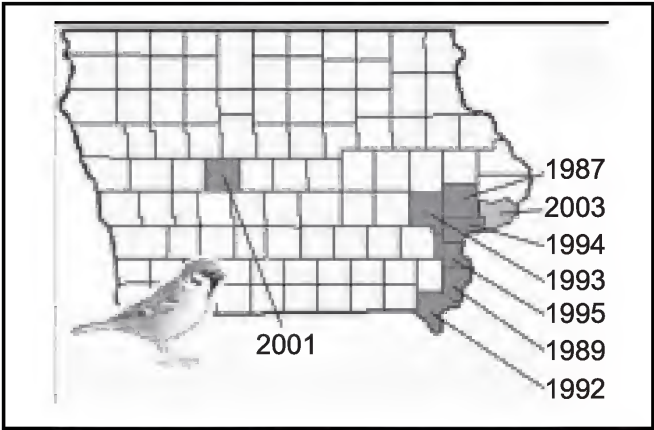


Figure 1. Eurasian Tree Sparrow occurrence in Iowa (Cecil 2002).

UNUSUAL SPECIES

For the third consecutive fall season, at least one Ferruginous Hawk was reported. Three casual gulls, Black-headed, Laughing and Mew, were reported by the third week of October, and a fourth, California Gull, before the season was out. Three Red Knots were photographed and seen by many in the central part of the state, and a Red Phalarope was documented in the far west. Two other casual species reported were Rufous Hummingbird and Bohemian Waxwing. Two hybrids were reported: a Brewster's Warbler and a Lawrence's Warbler. One observer carefully documented a western-race Winter Wren. A Ruddy Shelduck, which is not on the Iowa list, was reported to the Records Committee. Two radio-transmitter-equipped Whooping Cranes from Necedah spent a portion of their fall along the Mississippi River just inside the Iowa border with Wisconsin. Although not considered wild, these birds may be precursors to a great, new association with this species.

SPECIES DATA

All CAPS = Casual or Accidental species
 * = documented

Red-throated Loon: A juvenile found 9 Nov at the far north end of Saylorville Reservoir in Polk Co. was almost certainly the same individual seen at the far south end as late as 16 Nov. (AB*, KLP-details, SSP-details, BE, WO).

Common Loon: A bird found at Ada Hayden Park on 12 Aug (HZ, WO, JJD) was record early for Story Co, and 3 weeks ahead of the next individual that appeared at Saylorville on 7 Sep (JJD). The principal migration was a 3-day affair beginning with 122 at Saylorville on 2 Nov peaking at 167 the following day (AB, RC), the most since 1991. At least 130 were at Clear Lake in Cerro Gordo Co. on 4 Nov (CJF, RG).

Pied-billed Grebe: The last two were 1 on 24 Nov at Lake Meyer in Winneshiek Co. (Larry Reis slide DC) and 1 on 26 Nov at Lock & Dam 14 in Scott Co. (DR).

Horned Grebe: First: 3 at Saylorville Res. in Polk Co. on 5 Oct (AB). Peaks were 13 on 7 Nov in Linn Co. (DR), 11 on 11 Nov in Marion Co. (AB), and 10 on 22 Nov in Appanoose Co. (RC). Five lingered at Rathbun L in Appanoose Co. through 27 Nov (AB).

Red-necked Grebe: There was one report of a single adult at Little Wall Lake in Hamilton Co. on 21 Oct (KLP, SSP-details).

Eared Grebe: Singles and doubles were reported throughout the month of November from Dickinson, Cerro Gordo, Polk, and Appanoose Co. (ET, AB, RG, RC) with a bird remaining at Saylorville through the end of the season (AB).

Western Grebe: From 1 to 4 could be found at Saylorville Res. in Polk Co. beginning 21 Sep through the end of the season (DT, AB, JJD, BE, WO, MPr). Others were 1 at Lake Macbride in Johnson Co. 15–19 Nov (JF, JH), 1 at Twelve Mile L in Emmet Co. on 27 Aug (LAS) and 1 at Trumbull L in Clay Co. on 25 Oct (LAS).

American White Pelican: The first large concentrations were encountered at the big reservoirs on 30 Aug: 5,500 at Jester Park in Polk Co. (BE), 5,000 at Red Rock in Marion Co. (AB), and 1,500 at Rathbun in Appanoose Co. (RC). The Saylorville birds peaked at about 8,500 in early Oct (AB, JJD). Nearly all birds had left the state by 1 Nov.

Double-crested Cormorant: Most were 1,400 at Runnells WA in Polk Co. on 12 Oct (AB), less than half the peak counts from a year ago. One was still at Coralville Res in Johnson Co. on 29 Nov (JF).

American Bittern: There were only nine reports with the last two in early October: 1 on 4 Oct in Johnson Co. (JH) and 1 on 7 Oct in Marshall Co. (MPr).

Least Bittern: All: 1 on 30 Aug at Hanlontown Sl in Worth Co. (RG, PH), 1 on 30 Aug in Marion Co. at Red Rock Res (KLP, SSP), 1 on 6 Sep at Spring Run in Dickinson Co., and the last on 22 Sep at Otter Creek Marsh in Tama Co. (MPr).

Great Egret: Some high counts were 250 on 7 Aug at the Runnells area of Red Rock Res. (MPr) and 205 on 17 Aug nearby at Pinchey Bottoms in Marion Co. The latter held the last bird on 14 Nov (AB).

Snowy Egret: All: 1 on 9 Aug at Cone Marsh in Louisa Co. (JH), 2 on 17 Aug at Sedan WA in Appanoose Co. (RC), and 1 on 27 Aug at Hawkeye WA in Johnson Co. (BD).

Little Blue Heron: Three reports of single birds: 1 on 1 Aug at Peterson Pits in Story Co. (WO), 1 on 2 Aug at Spirit L in Dickinson Co. (ET), and 1 on 17 Aug at Cone Marsh in Louisa Co. (JH).

Cattle Egret: Very hard to find this fall. One stayed at Hawkeye WA in Johnson Co. from 19–31 Oct (CE, JH, JF), 1 in Adair Co. on 31 Oct (JS), and 1 in Allamakee Co. on 4 Nov (FL).

Green Heron: Last: 1 on 2 Oct at Otter Creek Marsh in Tama Co. (MPr).

Black-crowned Night-Heron: The last two reports were 1 on 7 Sep at USNWR in Kossuth Co. (MCK) and 5 on 13 Sep at Hanlontown Sl in Worth Co. (CJF).

Yellow-crowned Night-Heron: Two reports of juvenile birds: 1 was at Hawkeye WA in Johnson Co. 7–10 Aug (JH, BSc, CD) and 1 at Elk L in Clay Co. on 30 Aug (LAS).

White-faced Ibis: 2 adults were identified in a group of 4 on 30 Aug at Pinchey Bottoms in Marion Co. (AB-details, SSP-details, KLP-details, RC). The other 2 were immature birds, presumably the offspring of the adults.

Plegadis species: 1 at Spring Run in Dickinson Co. on 15 Oct (ET-details).

Turkey Vulture: The largest movements were in the third week of October with 208 counted at Hitchcock NA in Pottawattamie

Co. on 17 Oct (MO) and 88 counted in Allamakee Co. on 14 Oct (FL). The Hitchcock NA season total of 2,812 was a record flight and hawk watchers at Grammer Grove recorded their 2nd highest season total (MPR).

Greater White-fronted Goose: Reported only from Hitchcock NA in Pottawattamie Co with a peak of 300 on 21 Oct, and the last 75 in with a spectacular flight of Snow Geese on 23 Nov (MO).

Snow Goose: 250,000 were estimated to have passed the Hitchcock NA lodge on 23 Nov (MO). There were still 250 at Bay's Branch in Guthrie Co. on 30 Nov (RC).

Ross's Goose: Reported from only two locations: a total of 16 counted in the month of Nov at the Hitchcock NA in Pottawattamie Co. (MO) and 1 on 30 Nov at Bay's Branch in Guthrie Co. (RC).

Mute Swan: No reports.

Trumpeter Swan: Groups of from 2 to 6 unmarked birds were reported from Monona, Kossuth, and Hamilton Counties (BFH, MCK, SSP, KLP).

Tundra Swan: At least 2,000 at Wexford in Allamakee Co. on 4 Nov (FL). Eleven including 3 juveniles at USNWR in Kossuth Co. on 20 Nov. Last: 1 on the Mississippi R in Scott Co. on 27 Nov (SF).

RUDDY SHELDUCK: Photos of an individual seen at Pinchey Bottoms in Marion Co. from 3–5 Sep were provided to the Records Committee (AB).

Gadwall: The high count was 440 on 14 Oct at Saylorville Res. in Polk Co. (AB).

American Wigeon: Instances of 1–5 birds were reported from 5 counties (WO, RC, MO).

American Black Duck: Two September birds, 1 on 22 Sep in Cerro Gordo Co. (RG) and 1 on 26 Sep in Marion Co. (AB), were very early. The next few were 6 on 23 Oct in Dickinson Co. (LAS) and 2 on 24 Oct at Red Rock Res in Marion Co. (JJD).

Mallard: The largest concentrations were 15,100 on Saylorville Res. on 25 Nov (AB)

and 20,000 on 29 Nov in Pottawattamie Co. (MO).

Blue-winged Teal: 800 were counted on 21 Aug at Dunbar Sl in Greene Co. (JJD) during the season's first big push of migrants.

Northern Pintail: JJD reported the first migrants at Dunbar Sl in Greene Co. on 21 Aug. Most: 860 at Runnells WA in Polk/Marion Co. on 11 Nov (AB).

Green-winged Teal: Most: a mere 250 on 20 Sep at USNWR in Kossuth Co. (PH).

Canvasback: All: 6 on 10 Nov at Lock & Dam 14 in Scott Co. (DR) and 60 on 22 Nov at Rathbun L in Appanoose Co. (RC).

Ring-necked Duck: Most: 1,010 in Marion Co. on 1 Nov (AB).

Greater Scaup: All: 1 on 2 Nov at Little Wall L in Hamilton Co. (KLP, SSP), 15 on 9 Nov at Spirit L in Dickinson Co. (ET-details), 1 on 15 Nov at Red Rock Res in Marion Co. (AB), 1 on 22 Nov at Rathbun L in Appanoose Co. (RC), and 1 on 26 Nov on the Mississippi R in Scott Co. (DR).

Lesser Scaup: The peak was 7,100 on 3 Nov at Saylorville Res in Polk Co. (RC, AB).

Surf Scoter: At least 7 individuals, but restricted to three locations. Single at Pool 13 in Clinton Co. on 29 Oct (PVN), 1 f/imm. at Diamond L. in Poweshiek Co. on 27–30 Oct (MPR), and 1 on 11–13 Nov (JH, MPR-details). At Saylorville Res. in Polk Co. there was 1 f/imm on 14 Oct (AB), another on 8–11 Nov (DT, RC, WO, KLP, SSP, AB, BE, R&PA), a third on 25 Nov (AB), and a fourth was across the highway at the Polk City WA 9–12 Nov (AB).

White-winged Scoter: 1 on 9 Oct on the Mississippi R in Scott Co. (CL*) [third-earliest]. By 17 Nov, there were 7 at Lock & Dam 14 (SF, DR, JF) which dwindled to 1 by the end of the season. At other locations: 5 at Big Creek in Polk Co. on 2 Nov (AB), 1 at Diamond L. in Poweshiek Co. on 3 Nov (MPR), 2 at Saylorville in Polk Co. on 8 Nov (RC), and 7 at Spirit L. in Dickinson Co. on 11 Nov (ET*, LAS).

Black Scoter: All: 1 f/juv at Saylorville in Polk Co. on 8–27 Nov (DT, WO, RC, SSP, KLP, R&PA, AB, JR*); 2 at Spirit Lake in Dickinson Co. on 11–28 Nov (ET*, LAS), and 2 at Rathbun L in Appanoose Co. on 22 Nov (RC).

Long-tailed Duck: The first was 1 on 4 Nov at Saylorville Res in Polk Co., which may have become a member of a group of 8 found 18 Nov (AB). Numbers reported at Saylorville fluctuated throughout the remainder of the month with a high of 11 on 30 Nov (AB, BE, DT, HZ, MPr, RC, R&PA, WO). Elsewhere, there were 2 at Spirit Lake on 11 Nov (ET, LAS) and 1 was collected by a hunter on 21 Nov at Hendrickson Marsh in Story Co. (Heath Van Waus fide HZ).

Bufflehead: First: 1 on 14 Oct at Saylorville Res in Polk Co. (AB). Most: 219 on 6 Nov at Saylorville Res (AB, RC).

Common Goldeneye: First: 2 on 7 Nov in Hardin Co. (MPr) and 3 on 8 Nov at Clear Lake in Cerro Gordo Co. (PH). Most: 120 on 28 Nov at Saylorville Res in Polk Co. (RC, WO).

Hooded Merganser: Some high counts were 110 on 8 Nov at Clear Lake in Cerro Gordo Co. (PH) and 269 on 9 Nov at Saylorville Res in Polk Co. (AB, BE, RC). At Lake Meyer in Winneshiek Co., 25 on 7 Nov was a record high for the county (Larry Reis fide DC).

Common Merganser: First few: 3 on 1 Nov at Red Rock Res in Marion Co. (AB) and 2 on 7 Nov at Ada Hayden Park in Story Co. (WO). At least 800 were at Saylorville by 25 Nov (AB, RC).

Red-breasted Merganser: First: 3 on 2 Nov at Little Wall L in Hamilton Co. (KLP, SSP). Most: 49 on 6–9 Nov at Saylorville Res in Polk Co. (AB, BE).

Ruddy Duck: Most: 990 on 6 Nov at Saylorville Res in Polk Co. (AB).

Osprey: Reported from nine counties: Cerro Gordo, Clinton, Marshall, O'Brien, Polk, Pottawattamie, Scott, Story and Winneshiek, but not from Dickinson or

Johnson where historic nesting occurred this summer. Hawk watchers at Grammer Grove along the Iowa R in Marshall Co. set a new season total of 40 (MPr, BPr) and also had the high count of 10 individuals on 14 Sep. In the two-day period, 16–17 Sep, 14 passed the Hitchcock NA lodge in Pottawattamie Co. where the season's last report also occurred on 8 Nov (MO).

Mississippi Kite: There were multiple reports of both adults and juveniles in the Des Moines area in Polk Co. where the species nested again (RC, WO, DA, AB). Otherwise, Hitchcock NA hawk watchers observed a total of 6 individuals in the period 22 Aug to 23 Sep and Grammer Grove hawk watchers observed 1 on 14 Sep in Marshall Co. (MPr, BPr).

Bald Eagle: Very similar to last year: MO reported the Hitchcock NA season total was 729 (787 for 2002), and at Grammer Grove in Marshall Co. it was 271 (248 for 2002), which was a new high total (MPr). Peak days were 102 on 25 Nov at Hitchcock (MO) and 45 on 28 Nov at Grammer Grove (MPr).

Northern Harrier: Reported in small numbers, but from 13 widely-scattered counties in all regions of the state. Some peaks were 12 on 24 Oct in Wayne Co. (AB) and 20 on 4 Nov in Pottawattamie Co. (MO). The season total at Grammer Grove in Marshall Co. was 43 (MPr).

Sharp-shinned Hawk: First: 1 on 1 Sep at Grammer Grove in Marshall Co. (MPr). Peak days were 94 on 27 Sep at Grammer Grove (MPr) and 129 on 18 Oct at Hitchcock NA in Pottawattamie Co. (MO).

Cooper's Hawk: Like last year, the peak day in the west was less than and earlier than the peak day in the east: 13 on 20 Sep at Hitchcock NA in Pottawattamie Co. (MO) and 57 on 27–28 Sep at Grammer Grove in Marshall Co. (MPr).

Northern Goshawk: First few were 1 on 1 Oct in Pottawattamie Co. (MO), 1 on 8 Oct in O'Brien Co. (DK), and 1 on 31 Oct in Johnson Co. (JF). There were 12 reports from 7 counties.

Red-shouldered Hawk: All: 1 on 13 Oct at Hawkeye WA in Johnson Co. (JH), 1 on 9 Nov at White-Breast unit of Stephens S.F. in Marion Co. (JS), 1 on 16 Nov at Anamosa in Jones Co. (DT), 4 for the season at Hitchcock NA in Pottawattamie Co. (MO), and 10 for the season at Grammer Grove in Marshall Co. (MPr).

Broad-winged Hawk: The last were 2 seen on 1 Oct at Hitchcock NA in Pottawattamie Co. (MO) punctuating the worst season ever for broad-wings at that hawk watch. On the contrary, 712 at Grammer Grove in Marshall Co. 160 miles to the east was their 2nd-highest count. The respective peaks of 38 and 567 occurred on the same day: 20 Sep (MO, MPr).

Swainson's Hawk: Last: 1 on 17 Oct at Hitchcock NA in Pottawattamie Co. (MO). The peak day at HNA was 522 on 30 Sep. Immatures were seen in Aug along the Skunk R in Story Co. (SSP).

Red-tailed Hawk: Record numbers (3,000+) were counted at Hitchcock NA through Nov with another 3 weeks of counting still ahead (MO). A total of 817 was the 2nd-highest Grammer Grove total on record (MPr).

FERRUGINOUS HAWK: There was a single report of this accidental species on 14 Oct at Union Hills WMA in Cerro Gordo Co.

Rough-legged Hawk: The first few were 2 on 25 Oct at Grammer Grove in Marshall Co. (MPr, BPr), 1 on 26 Oct at Red Rock Res in Marion Co. (AB), and 1 on 26 Oct in Pottawattamie Co. (MO). Four were found at Owego Wetland in Woodbury Co. on 22 Nov (GLV).

Golden Eagle: The first was 1 on 3 Oct in Pottawattamie Co. (MO). Nine of the 14 birds reported were seen in the period 4–12 Nov (AB, BSc, ET, JS, MO, MPr, R&PA).

American Kestrel: Peak days of from 14 to 17 birds were reported in Sep (MPr), Oct (MO), and Nov (RC).

Merlin: There were steady reports of 1–2 birds from 11 counties through the season beginning with 1 on 5 Sep at Waterman Twp in O'Brien Co. (DK). From 14 Sep until the end of Nov at least 2 were present in the Glendale Cemetery in Polk Co. (RCe).

Peregrine Falcon: Reported widely from 11 counties, by month: 4 in Aug, 14 in Sep, 4 in Oct, 5 in Nov (AB, BE, BFH, CE, CJF, ET, JJD, KLP, MO, MPr, SSP, PVN, RCe, RG, THK).

Prairie Falcon: Four reports: 1 on 29 Aug in Guthrie Co. (JN*), 1 on 14 Oct in Pottawattamie Co. (MO*), 1 on 20 Oct in Pottawattamie Co. (JT*, MO*), and 1 on 27 Oct in Woodbury Co. (GLV*).

Gray Partridge: Groups of 6–20 birds were reported from Dickinson, Cerro Gordo, Kossuth, Greene, Story, and Clayton Co. (AJ, CJF, DA, ET, HZ, MCK, RG).

Ruffed Grouse: No reports.

Wild Turkey: Most: 53 on 28 Nov in Warren Co. (JS).

Northern Bobwhite: Most: 40 in Appanoose Co. on 19 Oct (RC). AB noted that the species increased greatly over last season in Wayne and Warren Cos.

Yellow Rail: All: 1 at Snake Creek Marsh in Greene Co. on 20 Sep (AB, AJ), 1 in Waterman Twp. in O'Brien Co. on 6 Oct (DK), and 4 near St. Anthony in Marshall Co. on 7 Oct (Carl Kurtz-details fide JJD).

King Rail: No reports.

Virginia Rail: Last few: 4 on 11 Sep at USNWR in Kossuth Co. (MCK), 1 on 20 Sep at Snake Creek in Greene Co. (BE), and 1 on 29 Sep at USNWR in Kossuth Co. (MCK).

Sora: Last: 1 on 30 Oct at Hawkeye in Johnson Co. (BSc). MCK counted 35 on 11 Sep in Kossuth Co.

Common Moorhen: No reports.

American Coot: The high count was 1,730 on 14 Oct at Saylorville Res in Polk Co. (AB).

Sandhill Crane: From 1 to 5 were reported from Allamakee, Pottawattamie, Story, Tama, and Winneshiek Co. (FL, MO, WO, MPr, DC). 14 migrated past the Hitchcock NA lodge in Pottawattamie Co. on 23 Nov (MO).

WHOOPING CRANE: Two female birds from the Necedah NWR project in Wisconsin that were fitted with radio transmitters chose to spend part of their fall in Iowa. For about two months, beginning in early Sep, they foraged on the Upper Mississippi River National Wildlife and Fish Refuge and private properties near New Albin and the Upper Iowa River in Allamakee Co. (RZ). When the temperature fell to 8 degrees F on 7 Nov, the two birds left and were tracked through IL, KY, TN, AL, GA, and FL.

Black-bellied Plover: First: 2 on 11 Aug at Jester Park in Polk Co. (AB). Most: 8 on 7 Oct in Dickinson Co. (DH). Last: 3 on 12 Oct in Marion Co. (AB)

American Golden-Plover: Up to 36 were at Pinchey Bottoms in Marion Co. 23 Aug–8 Sep (AB, RC, KLP, SSP, DA). All others: 1 on 11 Aug at Jester Park in Polk Co. (AB), 3 on 12–13 Aug in Boone Co. (JJD, SSP, KLP), and 3 on 3 Oct at Meier WA in Hardin Co. (MPr).

Semipalmated Plover: The first few were 3 on 4 Aug at Jester Park in Polk Co. (AB), and 1 on 13 Aug at Cardinal Marsh in Winneshiek Co. (DC). Some high counts were 37 on 2 Sep in Marion Co. (AB), and 20 on 20 Sep in Kossuth Co. (PH). Last: 1 on 29 Oct in Johnson Co. (JF).

Piping Plover: There was one report of a single bird on 22–23 Aug at Hawkeye WA in Johnson Co. (CE, THK*).

American Avocet: 1–2 were at Pinchey Bottoms in Marion Co. from 17 Aug–5 Sep (AB, DA, MPr), 11 were found at Dunbar Sl in Greene Co. on 21 Aug (JJD), and 1 was still at that location on 20 Sep (BE), 1–4 were at Jester Park in Polk Co. 14 Sep–25 Oct (JJD, BE, AB), and 37 were at Sandpiper

Beach in Polk Co. on 30 Sep (AB). Last: 1 on 4 Nov at the Lakeview area of Saylorville Res in Polk Co. (AB).

Greater Yellowlegs: Some concentrations were 28 on 23–28 Sep at USNWR in Kossuth Co. and 27 on 25 Sep at Pinchey Bottoms in Marion Co. (AB). Last: 1 on 6 Nov at Diamond L in Poweshiek Co. (MPr).

Lesser Yellowlegs: High: 250 on 13 Aug at USNWR in Kossuth Co. (MCK). Last: 1 on 6 Nov at Little Wall L in Hamilton Co. (KLP, SSP).

Solitary Sandpiper: First and most: 8 on 18 Aug at Sedan in Appanoose Co. (RC). Last: 1 in Poweshiek Co. (MPr) and 1 in Winneshiek Co. (DC) on 6 Oct.

Willet: No reports.

Spotted Sandpiper: The only report was 2 on 26 Sep in Marion Co. (AB).

Upland Sandpiper: All: 1 on 4 Aug at Lost Grove L in Scott Co. (DR), 1 on 22 Aug in Polk Co. (JJD), 2 on 23 Aug in Woodbury Co. (BFH), and 1 on 29 Aug in Sioux Co. (JVD).

Hudsonian Godwit: There were two reports of this casual fall migrant: 1 juvenile at USNWR in Kossuth Co. on 7 Sep (MCK-details) and 1 juvenile on 2–24 Oct at Coralville Res in Johnson Co. (BSc, JF, THK).

Marbled Godwit: All: 1 on 16–17 Aug at Jester Park in Polk Co. (AB, BE) and 1 juvenile on 18 Sep at USNWR in Kossuth Co. (MCK-details).

Ruddy Turnstone: 1 at Pinchey Bottoms in Marion Co on 23 Aug (AB, DA) and 1 along the shore of Saylorville Res in Polk Co on 1 Sep (Scott Rolles fide JJD).

RED KNOT: A juvenile bird found 1 Sep at Pinchey Bottoms in Marion Co. was joined by a second juvenile on 9 Sep (AB*, JG*-photos, JJD*), the last day they were seen. A third juvenile was photographed at Terra Lake in Polk Co. where it stayed 8–16 Sep (JG*, AB*, CJF, RG, JJD, BE).

Sanderling: At Jester Park in Polk Co., the season's first appeared on 6 Aug (AB) and the most at 10 were recorded on 31 Aug (AB). They were also found in Cerro Gordo,

Dickinson, Greene, Johnson, and Kossuth Co. (JJD, CD, LAS, THK, MCK, RG, ET, RC, SSP).

Semipalmated Sandpiper: First and most were 150 on 11 Aug at Jester Park in Polk Co. (AB). Another group of 90 were at USNWR on 11–20 Sep (MCK, PH), and 12 more were at Terra Lake in Polk Co. on 21 Sep (BE). A report of 2 on the late date of 7 Oct in Dickinson Co. contained no details.

Western Sandpiper: All: 4 juveniles on 28 Aug at Pinchey Bottoms in Marion Co. (AB*) and 1 on 29 Aug–1 Sep at Hawkeye WA in Johnson Co. (JH-details, BSc, CE).

Least Sandpiper: Some impressive concentrations were 650 on 11 Aug at Jester Park in Polk Co. (AB) and 200 on 27 Aug at USNWR in Kossuth Co. (MCK). The last few were 7 on 29 Oct at Hawkeye WA in Johnson Co. (JF) and 1 on 2 Nov at Big Creek SP in Polk Co. (AB).

White-rumped Sandpiper: This is a very rare fall migrant in the interior. The reports with some detail were 1–2 on 23–25 Aug at Jester Park in Polk Co. (AB*), 1 on 30 Aug at Dewey's Pasture in Palo Alto Co. (LAS-details), and 1 on 2 Sep in Marion Co. (AB*).

Baird's Sandpiper: The first were 6 on 6 Aug at Jester Park in Polk Co. (AB). The high count of 73 on 8 Sep at Pinchey Bottoms in Marion Co. (AB) was the most since the spring of 1991. Also reported from Kossuth and Winneshiek Co. (MCK, PH, DA, DC). Last: 1 on 23 Nov at Saylorville Res in Polk Co. (AB, R&PA).

Pectoral Sandpiper: Some concentrations were 876 on 17 Aug at Jester Park in Polk Co. (BE), 2,760 on 28 Aug at Red Rock Res in Marion Co. (AB, RC), and 700 on 7 Sep at USNWR in Kossuth Co. (MCK). Last: 6 on 2 Nov at Big Creek SP in Polk Co. (AB).

Dunlin: First: 1 on 2 Oct in Marion Co. (AB). 46 at USNWR in Kossuth Co. on 14 Oct and 32 in Cerro Gordo Co. on 4 Nov (RG). Last: 7–9 at Swan L in Johnson Co. on 18–21 Nov (JF).

Stilt Sandpiper: First: 1 on 9 Aug at Myre Sl in Winnebago Co. (RG). Most: 327 on 20 Sep at USNWR in Kossuth Co. (PH, RG). Last: 1 on 30 Oct at Jester Park in Polk Co. (AB*) [2nd-latest record].

Buff-breasted Sandpiper: Reported from 7 counties over 28 days. First: 1 on 11 Aug at Jester Park in Polk Co. (AB). Last: 2 in Worth Co. (RG) and 4 in Marion Co. (AB) on 8 Sep. Most: 30 on 30 Aug at Pinchey Bottoms in Marion Co. (RC, SSP, KLP).

Short-billed Dowitcher: Only six reports of small numbers < 12 from 13 Aug in Winneshiek Co. (DC) until 15 Sep in Polk Co. (AB).

Long-billed Dowitcher: Two reports overlapped the earlier Short-billed migration: 2 on 8 Sep in Marion Co. (AB) and 3 on 15 Sep in Kossuth Co. (MCK). Some high counts were 87 on 4 Oct at Dewey's Pasture in Palo Alto Co. (LAS) and 116 at Jester Park in Polk Co. (AB). Last: 1 on 15 Nov at Hawkeye WA in Johnson Co. (JH) and 1 on 18 Nov at Swan L in Johnson Co. (JF).

Wilson's Snipe: First: 1 on 12 Aug in Boone Co. (JJD). Most: 53 on 1 Oct in Warren Co. (AB).

American Woodcock: All: 1 on 16 Aug at Dunbar Sl in Greene Co. (KLP, SSP), 1 on 18 Oct in Iowa Co. (RC), 1 on 29 Oct at Mill Creek SP in O'Brien Co. (DK), and 1 on 7 Nov in Wayne Co. (AB).

Wilson's Phalarope: Last: 2 on 20 Sep in Kossuth Co. (RG).

Red-necked Phalarope: First: 1 on 11 Aug at Jester Park in Polk Co. (AB). Most: 13 on 27 Aug at Kettleson-Hogsback in Dickinson Co. (LAS). Last: 3 on 15 Sep at USNWR in Kossuth Co. (MCK). Also reported from Marion and Winneshiek Co.

RED PHALAROPE: A report of 1 on 14 Sep at Owego Wetland in Woodbury Co. (BFH*) was referred to the Records Committee.

LAUGHING GULL: A report of 1 on 13 Sep at Saylorville Res in Polk Co (DT*) was referred to the Records Committee.

Franklin's Gull: Returned to Iowa in numbers in the last week of Sep with 9,800 at Red Rock Res in Marion Co. and another 8,300 at Saylorville Res in Polk Co. (AB). High counts at both reservoirs were 23,000 on 2–4 Oct (JJD, AB). Elsewhere: 12,000 on 11 Oct at Lake Manawa in Pottawattamie Co. (JJD), 23,000 on 18 Oct at Spirit Lake in Dickinson Co. (LAS), and 13,000 on 19 Oct at Rathbun L in Appanoose Co. (RC). Last: 1 on 23 Nov at Saylorville (BE).

BLACK-HEADED GULL: A single bird was at the north end of Spirit Lake in Dickinson Co. from 2 Aug–26 Oct (ET*, LAS*).

Bonaparte's Gull: The first was 1 on 19 Sep at Saylorville Res in Polk Co. (AB) where the high count of 775 took place on 9 Nov (BE). A few were still at Coralville, Rathbun, Red Rock, and Saylorville Res in the last week of Nov (AB, JF, RC, WO).

MEW GULL: An adult was found on 23 Oct below the dam at Red Rock Res in Marion Co. (AB*),

CALIFORNIA GULL: An apparent member of the Great Plains population was at Coralville Res in Johnson Co. on 24 Nov (JF*).

Herring Gull: The first bird of the season was found on 2 Oct at Red Rock Res in Marion Co. (AB).

Thayer's Gull: All: 1 juv at Trumbull L in Clay Co. on 26 Oct (LAS) and 1 juv at Saylorville Res in Polk Co. on 25 Nov (AB).

Lesser Black-backed Gull: A single adult at Coralville Res in Johnson Co. on 15–17 Oct (JF*, JH-details, THK-photo, BSc).

Sabine's Gull: The only report was 1 juv at Lock & Dam 14 in Scott Co. on 30 Sep–2 Oct (DR, SF).

Caspian Tern: First: 2 on 7 Aug at Jester Park in Polk Co. (AB). Most: 52 at Red Rock Res in Marion Co. (AB). Last: 1 in Scott Co. on 4 Oct (SF).

Common Tern: First: 1 on 14 Sep at Saylorville Res in Polk Co. (JJD-details). By 24 Sep the numbers there had grown to 9 (AB-details, BE). Last 2: at Saylorville on

12 Oct (AB-details, BE). There was one other report with no details of 2 in Scott Co. on 2 Oct.

Forster's Tern: The last were 9 on 4 Oct in Scott Co. (SF) except for one very late individual found over a month later on 6 Nov at Pleasant Creek SP in Linn Co. (JH-details) [2nd-latest record].

Least Tern: All: 1 adult on 20 Aug USNWR in Kossuth Co. (MCK), 3 on 26 Aug at Saylorville Res in Polk Co. (AB), and 1 on 18 Sep in Pottawattamie Co. (MO).

Black Tern: High count: 40 on 30 Aug in Marion Co. (RC). Last: 2 on 30 Sep at Lock & Dam 14 in Scott Co. (SF, DR).

Eurasian Collared-dove: Reported from twelve counties: 1 in Adair Co. (JSm*), 1 in Appanoose Co. (RC), 3 at Luther in Boone Co. (Todd Bogenschutz and Mark McInroy fide JJD-details), 2 at Ogden in Boone Co. (WO), 3 in Cedar Co. (DR), 1 in Cerro Gordo Co. (CJF), 6 in Dickinson Co. (ET), 1 in Fremont Co. (Anne Morrill fide Ross Silcock), 1 in Jefferson Co. (LG*), 2 in Marshall Co. (MPr), 12 in Polk Co. (RC), 3 in Poweshiek Co. (MPr), and 1 in Wayne Co. (AB).

Black-billed Cuckoo: 15 reports from 12 counties. The last two were 1 on 22 Sep in Hancock Co. (RG) and 1 on 23 Sep in Cerro Gordo Co. (RG).

Yellow-billed Cuckoo: 11 reports from 10 counties, including 8 on 6 Sep in Van Buren Co. (RC). Last: 1 on 18 Oct in Iowa Co. (RC).

Barn Owl: One was found dead at the Runnells WA on 30 Aug (AB).

Long-eared Owl: All: 1 on 15–19 Nov in Dickinson Co. (LAS, ET), 2 on 17 Nov in Linn Co. (SF), and 1 on 22 Nov in Scott Co. (DR).

Short-eared Owl: All: 12 were at Owego Wetland in Woodbury Co. on 2 Nov (GLV), 1 in Wayne Co. on 7, 15, 21 Nov (AB), and 1 in Woodbury Co. on 9 Nov (BFH).

Northern Saw-whet Owl: First: 1 on 21 Oct in Clayton Co. (DA) and a second was found on 5 Nov in Black Hawk Co. (DR).

Common Nighthawk: The last few were seen by many on 11 Oct at Hitchcock NA in Pottawattamie Co. during the IOU fall meeting.

Whip-poor-will: 7 at Hitchcock NA on 10 Aug were the last seen there (MO). One was heard calling on 14 Sep in Polk Co. (DT). During a 2-month-long predawn watch in Cerro Gordo Co., migrants were seen intermittently from 9 Aug–24 Sep (RG).

Chimney Swift: Last: 9 Oct in Kossuth Co. (MCK), 10 Oct in Pottawattamie Co. (MO), and 11 Oct in Scott Co. (DR). High count was 4,000 on 16 Sep at Hitchcock NA (MO).

Ruby-throated Hummingbird: The last two were feeder birds: 1 on 1 Oct Story Co. (KLP, SSP) and 1 on 7 Oct in Cerro Gordo Co. (RG).

RUFIOUS HUMMINGBIRD: A report from western IA was referred to the Records Committee.

Red-headed Woodpecker: Hawk watchers at Hitchcock NA in Pottawattamie Co. noticed that about 50% of the birds migrating past the station were immatures, which was more than usual (MO).

Yellow-bellied Sapsucker: 50% of the reports were in the last week of Sep. Six were found on 30 Sep in Brookside Park in Story Co. (SSP, KLP).

Northern Flicker: There were two reports of red-shafted birds from Pottawattamie Co. (AJ) and Sioux Co. (JVD), and one report of a mixed race bird from Franklin Co. (JJD).

Olive-sided Flycatcher: First: 1 on 21 Aug in Cerro Gordo Co. (RG). Last: 1 on 22 Sep in Story Co. (SSP, KLP).

Eastern Wood-Pewee: Last two: 1 on 7 Oct in Polk Co. (R&PA) and 1 on 9 Oct in Kossuth Co. (MCK).

Yellow-bellied Flycatcher: First: 1 on 23 Aug was in Liscomb in Marshall Co. (MPR). Last: 1 on 14 Sep at Grammer Grove in Marshall Co. (MPR).

Acadian Flycatcher: Last: 3 on 6 Sep in Van Buren Co. (RC). A single bird found during the summer at the unusual northern location of Myre Sl in Winnebago Co. continued there into Aug. It was last heard calling on 13 Aug (CJF).

Alder Flycatcher: Two Aug birds were identified by voice: 1 on 2 Aug in Polk Co. (DK) and 1 on 20 Aug at Grammer Grove in Marshall Co. (MPR-details).

Willow Flycatcher: 1 on 2 Aug in Winneshiek Co. was the last identified by voice (DC). Later reports were for 3 Aug, 17 Aug, and 30 Aug.

Least Flycatcher: Last: 8 on 12 Sep at Call SP in Kossuth Co. (MCK-details).

Empidonax species: Reports of late birds not identifiable to species were 4 on 15 Sep at Brookside Park in Story Co. (KLP, SSP) and 1 on 1 Oct in Winneshiek Co. (DC).

Eastern Phoebe: The last was 1 on 7 Nov in Harrison Co. (GLV).

Great Crested Flycatcher: The last few were on 19–20 Sep in Marshall, Story, and Appanoose Co. (MPR, SSP, KLP, RC).

Western Kingbird: All: 3 on 16 Aug in Pottawattamie Co. (MO), 1 on 1 Sep in Johnson Co. (JPB), and 1 on 6 Sep in Cerro Gordo Co. (CJF).

Eastern Kingbird: The largest count was 116 on 22 Aug at Hitchcock NA in Pottawattamie Co. (MO). At the same location, the last was documented on 7 Oct (MO*), the latest fall bird since 1974, and the 2nd-latest record.

Loggerhead Shrike: Reports of the two shrike species overlapped during the period 20 Oct–11 Nov. The last Loggerhead in the north was at Grover's Lake in Dickinson Co. (LAS, ET).

Northern Shrike: There were two Oct reports: 1 on 20–21 Oct at Cardinal Marsh in Winneshiek Co. (DC, CJF) and 1 on 20 Oct in Winnebago Co. (RG). Reported from 5 counties in November (AB, DC, GLV, LAS, WO).

White-eyed Vireo: The only report was 2 on 6 Sep in Van Buren Co. (RC).

Bell's Vireo: All: 2 on 15 Aug in Pottawattamie Co. (MO), 2 on 16 Aug at Owego Wetland in Woodbury Co. (GLV), and 4 on 6 Sep in Van Buren Co. (RC).

Yellow-throated Vireo: Last: on 14 Sep, 1 in Marshall Co. (MPr) and 3 in Cerro Gordo Co. (RG).

Blue-headed Vireo: First: 1 on 25 Aug in Plymouth Co. (JJD). Last: 2 on 17 Oct in Story Co. (KLP, SSP).

Warbling Vireo: Last two: on 27 Sep in Polk Co. (AB) and 28 Sep in Clinton Co. (FL).

Philadelphia Vireo: First: 1 on 26 Aug at Pilot Knob SP in Winnebago Co. (RG) and 1 on 28 Aug at Burr Oak in Winneshiek Co. (DC). Last two reports were on 20 Sep, in Marshall Co. (MPr) and Appanoose Co. (RC).

Red-eyed Vireo: Last: 1 on 29 Sep in Cerro Gordo Co. (RG). Some peaks were 19 on 31 Aug at Brookside Park in Story Co. (SSP, KLP), 18 on 13 Sep in Marshall Co. (MPr), and 12 on 31 Aug in Polk Co. (BE).

Purple Martin: 350 on 16 Aug at Jester Park in Polk Co. (ET). Last: on 23 Sep: 3 in Pottawattamie Co. (MO) and 1 in Polk Co. (AB).

Tree Swallow: 250 were in with the martins on 16 Aug at Jester Park (ET). Last: 22 on 1 Nov in Marion Co. (AB).

Northern Rough-winged Swallow: Last: 8 on 1 Oct at Banner WA in Warren Co. (AB).

Bank Swallow: The only report was 1 on 23 Sep in Pottawattamie Co. (MO).

Cliff Swallow: The high count was 400 on 18 Aug at Sedan WA in Appanoose Co. (RC). Last: 2 on 23 Sep in Polk Co. (AB).

Barn Swallow: 2,000 on 2 Oct at Sandhill L in Woodbury Co. (GLV). Last: 5 on 5 Nov in Marion Co. (AB).

Red-breasted Nuthatch: Reported from 8 counties beginning with 1 on 30 Aug in Hancock Co. (RG), and 1 on 31 Aug in Sioux Co. (JVD).

Brown Creeper: First few were 1 on 25 Sep in Story Co. (KLP, SSP) and 4 on 29 Sep in Cerro Gordo Co. (RG).

Carolina Wren: Reported from ten eastern and central counties, but also from four counties not often associated with this species: Cerro Gordo Co. in the north (BM), and Woodbury (BFH), Cherokee (DB), and Plymouth (JJD) Co. in the far west.

House Wren: Last: 1 on 12 Oct in Pottawattamie Co. (KLP, SSP).

Winter Wren: There were 14 widely scattered reports of single birds beginning with 1 on 22 Sep in Story Co. (SSP, KLP) and 1 on 23 Sep in Cerro Gordo Co. (RG). Reports continued through the end of the season. An individual of the western subspecies *pacificus* was found at Brookside Park in Story Co. on 21 Oct (KLP, SSP*).

Sedge Wren: Last: 1 on 6 Oct at Union Hills WMA in Cerro Gordo Co. (RG).

Marsh Wren: The last were 16 found on 29 Sep at Sedan WA in Appanoose Co. (RC), and on the same date, 1 was at Hawkeye WA in Johnson Co. (CE).

Golden-crowned Kinglet: First: 2 on 28 Sep at Call SP in Kossuth Co. (MCK).

Ruby-crowned Kinglet: First: found on 31 Aug in Marshall Co. (MPr). Most: 40 counted on 30 Sep at Brookside Park in Story Co. (SSP, KLP).

Blue-gray Gnatcatcher: The last were singles on 13 Sep in Story Co. (KLP, SSP) and 14 Sep in Marshall Co. (MPr).

Eastern Bluebird: 57 were counted on 5 Nov at Hitchcock NA in Pottawattamie Co. (MO). Another 24 were found on 28 Nov in Warren Co. (JS).

Townsend's Solitaire: No reports.

Veery: There were six late Aug reports and three Sep reports. The latter were all from Marshall Co.: 1 on 7 Sep at Liscomb, 2 on 7 Sep at Grammer Grove, and 1 on 14 Sep at Grammer Grove (MPr).

Gray-cheeked Thrush: The only report was of 2 birds on 28 Sep at Call SP in Kossuth Co. (MCK-details).

Swainson's Thrush: First: 1 on 28 Aug at Parker's Woods in Cerro Gordo Co. (RG), followed by almost daily sightings across the state until 19 Sep. After that, they became harder to find with the last two reports being 1 on 4 Oct in Story Co. (KLP, SSP) and 2 on 5 Oct in Cerro Gordo Co. (RG).

Hermit Thrush: First: 1 on 30 Sep at Smith WA in Kossuth Co. (MCK-details). As many as 20 were counted on 14 Oct at Brookside Park in Story Co. (WO). Sightings continued through the end of the season.

Wood Thrush: The last were 2 on 9–10 Oct at Smith WA in Kossuth Co. (MCK), which may have been local birds.

Varied Thrush: A record-early male by two days was reported for 13 Oct at Brookside Park in Story Co. (KLP, SSP*).

Gray Catbird: The last was 1 on 7 Nov at Smith Lake in Kossuth Co. (MCK).

Northern Mockingbird: All: 1 on 11 Sep in Wayne Co. (AB) and 1 at Huxley in Story Co. on 22–23 Nov (JN, WO).

Brown Thrasher: The last was 1 on 7 Nov in Kossuth Co. in the same thicket as the last Catbird (MCK).

American Pipit: The first 2 on 6 Sep in Marion Co. (AB) were two weeks earlier than the next report of 2–4 on 18–20 Sep in Kossuth Co. (MCK, RG, PH). Some high counts were 38 on 16 Oct at Jester Park in Polk Co. (AB), 22 on 19 Oct at USNWR in Kossuth Co. (MCK), and 17 on 26 Oct at Spring Run in Dickinson Co. (ET). Last: 3 on 18 Nov at Swan L in Johnson Co. (JF).

BOHEMIAN WAXWING: A report of 1 on 22 Nov in Clayton Co. (DA*) will be referred to the Records Committee.

Blue-winged Warbler: Last: 1 in Van Buren Co. on 6 Sep (RC).

Golden-winged Warbler: Widely reported from 14 counties. The first two were 1 on 21 Aug in Cerro Gordo Co. (RG), and another on 24 Aug in Humboldt Co. (JJD). Last: 1 on 25 Sep in Scott Co. (DR). Two hybrids were reported, a "Lawrence's"

Warbler on 1 Sep in Cerro Gordo Co. (RG) and a "Brewster's Warbler" on 31 Aug in Story Co. (SSP*).

Tennessee Warbler: The first two were 1 on 22 Aug at Call SP in Kossuth Co. (MCK) and 1 on 23 Aug at Grammer Grove in Marshall Co. (MPR). 60 were counted on 6 Sep in Van Buren Co. (RC). Last: 1 on 6 Oct in Allamakee Co. (FL).

Orange-crowned Warbler: First few: 1 on 20 Sep in Marshall Co. (MPR) and 1 in Pottawattamie Co. (MO), 2 on 19 Sep at Brookside park in Story County (KLP, SSP). MCK found 23 on 28 Sep in Call SP in Kossuth Co. (MCK). Last: 1 on 26 Oct in Sioux Co. (JVD).

Nashville Warbler: First: 1 on 22 Aug at Call SP in Kossuth Co. (MCK). Last: 1 on 15 Oct at Grammer Grove in Marshall Co. (BPr, MPR).

Northern Parula: Last: 2 on 30 Sep in Story Co. (SSP, KLP).

Yellow Warbler: There were only five reports of this impatient nester. No more were found after 1 on 12 Sep at Call SP in Kossuth Co. (MCK).

Chestnut-sided Warbler: 45 were counted on 31 Aug at Brookside Park in Story Co. (KLP, SSP), of which 43 were thought to be first fall birds. Last: 1 on 1 Oct in Cerro Gordo Co. (RG).

Magnolia Warbler: First: 2 on 22 Aug in Kossuth Co. (MCK). Last: 1 on 20 Sep in Appanoose Co. (RC). 16 of 17 seen on 31 Aug in Story Co. were identified as first fall birds. (SSP, KLP).

Cape May Warbler: The first was 1 on 28 Aug at Burr Oak in Winneshiek Co. (DC), nearly three months ahead of the last two stragglers: 1 on 18 Nov in Linn Co. (BSc) and 1 on 24 Nov in Warren Co. (AB-details).

Black-throated Blue Warbler: All: 1 on 30 Aug along the Little Sioux River in Clay Co. (LAS), 1 on 31 Aug at Brookside Park in Story Co. (SSP, KLP), 4 on 5 Sep in Mike Overton's yard in Boone Co., 1 on 12 Sep at Ahquabi in Warren Co. (JS), and 1 on 12 Oct in Polk Co. (BE).

Yellow-rumped Warbler: Unusually early were 4 on 30 Aug in Worth Co. (RG, PH) and 2 on 14 Sep in Story Co. (KLP, SSP). Reports continued through the end of the season.

Black-throated Green Warbler: Seven reports with the first on 27 Aug in Marshall Co. (MPr) and the last on 1 Oct in Kossuth Co. (MCK).

Blackburnian Warbler: First: 1 on 19 Aug in Worth Co. (RG). Last: 1 on 13 Sep in Story Co. (KLP, SSP). RC counted 7 on 6 Sep in Van Buren Co.

Yellow-throated Warbler: All: 1 on 7 Sep in Linn Co. (BSc), 1 on 12 Sep in Warren Co. (JS), and 1 on 13 Sep in Story Co. (SSP*). A record that missed inclusion in the fall 2002 report was 1 late bird on 24 Sep at Bettendorf in Scott Co. (DR-details).

Pine Warbler: Three reports: 1 on 25 Aug in Mason City (CJF*), 1 on 10 Sep at Bacon Creek in Woodbury Co. (BFH-details), and 1 on 14 Sep at Glendale Cemetery in Polk Co. (RCe-details).

Palm Warbler: First: 1 on 30 Sep in Cerro Gordo Co. (RG). Last: 1 on 11 Oct in Pottawattamie Co. (KLP, SSP).

Bay-breasted Warbler: The first two were singles on 22 Aug in Kossuth Co. (MCK) and 23 Aug in Marshall Co. (MPr). Last: 1 on 3 Oct in Cerro Gordo Co. (RG).

Blackpoll Warbler: All: a pocket of 12 on 22 Aug at Call SP in Kossuth Co. (MCK), 1 on 30 Aug in Worth Co. (RG), and 2 on 19 Sep in Story Co. (SSP, KLP).

Cerulean Warbler: The only report of this nearly invisible fall warbler was 1 on 14 Sep in Cerro Gordo Co. (RG).

Black-and-white Warbler: First: 1 on 19 Aug at Burr Oak in Winneshiek Co. (Lee Zieke fide DC). Last: 2 on 25 Sep at Brookside Park in Story Co. (KLP, SSP), where 27 were counted on 31 Aug.

American Redstart: Last: 1 on 22 Sep in Cerro Gordo Co. (RG).

Prothonotary Warbler: No reports.

Worm-eating Warbler: No reports.

Ovenbird: The last two were singles on 30 Sep at Smith WA in Kossuth Co. (MCK) and on 6 Oct in Allamakee Co.

Northern Waterthrush: First: 1 on 18 Aug in Cerro Gordo Co. (RG). Last: 1 on 3 Oct in Story Co. (AB).

Kentucky Warbler: No reports.

Connecticut Warbler: There was one report of a first fall female at Brookside Park in Story Co. on 22 Sep (SSP-details, KLP-details).

Mourning Warbler: There were ten widely scattered reports with the first on 23 Aug at Grammer Grove in Marshall Co. (MPr) and the last on 30 Sep at Brookside Park in Story Co. (SSP).

Common Yellowthroat: Two stragglers were found long after most birds had left the state: 1 on 16 Oct at Webster City in Hamilton Co. (DC) was late, but then more than a month later, 1 showed up on 25 Nov in Warren Co. (JS), which is straight south of Hamilton Co.

Wilson's Warbler: First few were 2 on 21 Aug in Cerro Gordo Co. (RG) and 1 on 22 Aug in Kossuth Co. (MCK). Last: 1 on 12 Oct at Hawkeye WA in Johnson Co. (BSc).

Canada Warbler: 12 reports beginning with 2 on 21 Aug at Parker's Woods in Cerro Gordo Co. (RG) and ending with 1 at the same location on 23 Sep. Also reported from Boone, Kossuth, Marshall, Polk, Story, Van Buren, Winneshiek, Winnebago, and Woodbury Counties (RC, MCK, MPr, BE, KLP, SSP, DC, BSt, GLV).

Yellow-breasted Chat: No reports.

Summer Tanager: No reports.

Scarlet Tanager: The last was a late bird on 18 Oct in Pottawattamie Co. (MO).

Spotted Towhee: All: 2 on 28 Sep at Hitchcock NA in Pottawattamie Co. (MO), a pair at Brookside Park in Story Co. on 5 Oct (AJ), a male at Oak Grove A at Saylorsville Res 5 Oct (AB), 1 at Ada Hayden Park in Story Co. on 15 Oct (WO), 1 on 16 Oct at Big Creek, and 1 at Glendale Cemetery in Polk Co. on 18 Oct (RCe).

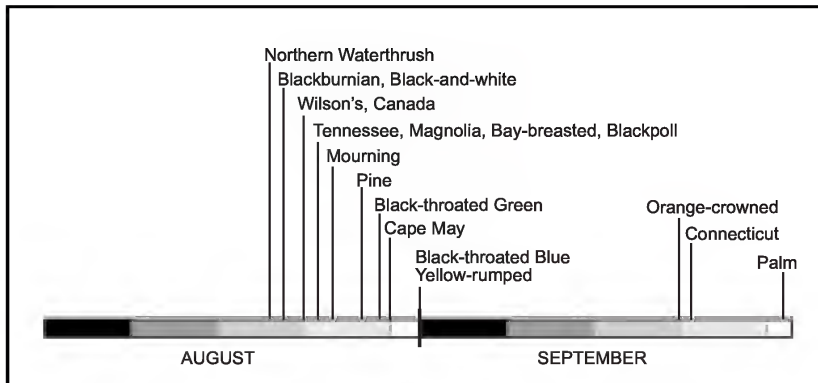


Figure 2. Warblers: first arrivals for fall 2003.

Eastern Towhee: Last: 1 on 4 Nov in Allamakee Co. (FL).

American Tree Sparrow: First were found on 21 Oct: 1 in Hamilton Co. (KLP, SSP) and 5 in Winneshiek Co. (DC). Three days later MCK noted dozens at USNWR in Kossuth Co.

Chipping Sparrow: On 16 Nov, the last stopped for water in the Proescholdts' yard in Marshall Co. (MPr).

Clay-colored Sparrow: The only report with details was 1 on 28 Sep in Pottawattamie Co. (JT*). Others were singles on 29 Sep; 1, 5, and 14 Oct.

Field Sparrow: Last: 1 on 21 Oct in Polk Co. (AB).

Vesper Sparrow: Last: 1 on 21 Oct in Pottawattamie Co. (MO).

Lark Sparrow: The only report was 1 on 1 Sep at Hitchcock NA in Pottawattamie Co. (MO).

Savannah Sparrow: Last: 1 on 9 Nov in Polk Co. (BE).

Grasshopper Sparrow: Only report was 2 on 28 Sep in Pottawattamie Co. (MO).

Henslow's Sparrow: 1 was still at Neal Smith NWR in Jasper Co. on 7 Aug (MPr).

Le Conte's Sparrow: The first found were 6 on 20 Sep at Snake Creek Marsh in Greene Co. when a group went looking for Yellow Rails (AB, BE). On 4 Oct, AJ visited

the marsh and counted at least 50. Other high counts were all about a dozen: at Sedan in Appanoose Co. (RC), at Kirchner Prairie in Clay Co. (LAS), and at Union Hills in Cerro Gordo Co. (RG). Last: 1 on 15 Nov in Wayne Co. (AB).

Nelson's Sharp-tailed Sparrow: First: 1 on 20 Sep at Snake Creek Marsh in Greene Co. (AB). Also reported in Appanoose, Boone, Cerro Gordo, Clay, Johnson, Marion, Tama, and Warren Counties with a high count of 11 on 29 Sep at Sedan WA in Appanoose Co. (RC). Last: 1 on 14 Oct in Cerro Gordo Co. (RG).

Fox Sparrow: First few: 8 on 1 Oct at Fort Atkinson in Winneshiek Co. (DC) and 1 on 6 Oct at Smith WA in Kossuth Co. (MCK). Most: 35 at the State Forest Nursery in Story Co. on 26 Oct (SSP, KLP).

Lincoln's Sparrow: First: 6 on 20 Sep at Snake Creek Marsh in Greene Co. (BE, KLP, SSP). Most: 46 on 28 Sep at Hitchcock NA in Pottawattamie Co. (MO). Last was outside my window in Mason City on 26 Oct.

White-throated Sparrow: First: on 17 Sep at Burr Oak in Winneshiek Co. (Lee Zieke fide DC).

Harris's Sparrow: The first few were 1 on 25 Sep in Cerro Gordo Co. (RG), 6 on 28 Sep at Michaelson Marsh in Kossuth Co. (MCK), and 6 at Hitchcock NA in

Pottawattamie Co. (MO). Most: 22 on 25 Oct at the State Forest Nursery in Story Co. (SSP, KLP).

White-crowned Sparrow: The first arrived on 29 Sep in three different counties: 4 at Cardinal Marsh in Winneshiek Co. (DC), 1 at Ada Hayden Park in Story Co. (WO), and 1 in Cerro Gordo Co. (RG).

Dark-eyed Junco: First: 1 on 22 Sep in Cerro Gordo Co. (RG).

Lapland Longspur: A single, very early bird was found on 6 Oct at Saylorville Res in Polk Co. (AB). The first big flock was 500 on 25 Oct at Owego Wetland in Woodbury Co. (BFH).

Smith's Longspur: All: 3 on 19 Oct at USNWR in Kossuth Co. (MCK-details), 2 on 25 Oct at Owego Wetland in Woodbury Co. (BFH*), and 7 on 14 Nov at Knutson's Pond in Cerro Gordo Co. (RG*).

Snow Bunting: Nine reports beginning with 5 on 25 Oct in Woodbury Co. (BFH). Up to 29 were along the shores of Saylorville Res 8–9 Nov (BE, DK, RC, WO), and 75 were found at Rathbun L in Appanoose Co. on 22 Nov (RC).

Rose-breasted Grosbeak: Last: 2 on 25 Sep in Story Co. (SSP, KLP).

Blue Grosbeak: There were four August reports from four counties along the Missouri/Big Sioux Rivers: 1 on 15 Aug in Pottawattamie Co. (MO), 2 on 16 Aug in Woodbury Co. (GLV), 3 on 25 Aug in Lyon Co. (JJD), and 1 on 29 Aug in Sioux Co. (JVD).

Indigo Bunting: Last: 1 on 10 Oct at Pony Creek A in Mills Co. (JJD).

Dickcissel: Last: 2 on 20 Sep at Snake Creek Marsh in Greene Co. (KLP, SSP).

Bobolink: Most: 100 on 3 Sep at Sedan WA in Appanoose Co. (RC). Last: 1 on 1 Oct at Banner WA in Warren Co. (AB).

Eastern Meadowlark: The only meadowlarks identified as Eastern were 6 at Rathbun L in Appanoose Co. on 19 Oct (RC).

Western Meadowlark: Reported through late November.

Yellow-headed Blackbird: The only report was 40 flying past the hawk watchers at Hitchcock NA in Pottawattamie Co. on 15 Sep, their best count ever for this species (MO).

Rusty Blackbird: A record early male in breeding plumage was found on 6 Sep at Spring Run in Dickinson Co. (LAS-details), a full month before the next report of 16 on 6 Oct at Cardinal Marsh in Winneshiek Co. (DC). Most: 1,100 on 4 Nov at Hitchcock NA in Pottawattamie Co. (MO)

Brewer's Blackbird: 3 very early females were at Pool Sl in Allamakee Co. on 1 Oct (FL-details). The next report was over a month later when 9 were found on 6 Nov at Otter Creek Marsh in Tama Co. (MPR-details).

Common Grackle: Movements peaked on 4 Nov at Hitchcock NA in Pottawattamie Co. when 16,500 streamed past the lodge (MO).

Great-tailed Grackle: Reported from Van Buren (RC) and Warren (JS, DA) Co. Most: 90 on 16 Oct in Warren Co. (JS).

Orchard Oriole: The second-to-last was 1 on 23 Aug in Woodbury Co. (BFH). The last was 54 days later when a female/immature-type individual was found at Big Creek SP in Polk Co. (AB*), the 2nd-latest ever recorded.

Baltimore Oriole: Last: 2 on 6 Sep in Van Buren Co. (RC).

Purple Finch: Seen early and often with reports from sixteen counties. First: 4 on 20 Sep in Appanoose Co. (RC). Most: 265 on 2 Nov at Hitchcock NA in Pottawattamie Co. (MO).

Red Crossbill: 1 visited a Ventura feeder in Cerro Gordo Co. on 6 Nov (Paulette Lugg fide CJF).

White-winged Crossbill: No reports.

Common Redpoll: All: 1 on 21 Nov in Cerro Gordo Co. (CJF, RG), 3 on 22 Nov in a Dickinson Co. yard (ET), and 1 on 26 Nov at Saylorville Res in Polk Co. (AB).

Pine Siskin: All: 1 on 17 Oct in Mason City (PH), 1 on 15 Nov in Appanoose Co. (RC), 2–4 on 23–30 Nov in Iowa City (JF), and 2 on 26 Nov in Spirit Lake (ET).

Eurasian Tree Sparrow: 4 on 10 Nov near Buffalo in Scott Co. may be a first county record for this species (D&KS-details). Also: 5 on 23 Nov at Hawkeye WA in Johnson Co. (JH).



Buff-breasted Sandpiper at Pinchey Bottoms, Marion Co., 30 August 2003. Photograph by Jay Gilliam, Norwalk, IA.



American Golden-Plover at Pinchey Bottoms in Marion Co., 30 August 2003. Photograph by Jay Gilliam, Norwalk, IA.



Short-billed Dowitcher at Pinchey Bottoms, Marion Co., 23 August 2003. Photograph by Jay Gilliam, Norwalk, IA.



Black Scoter at Lincoln Access, Saylorville Lake, Polk Co., 8 November 2003. Photograph by Jay Gilliam, Norwalk, IA.



Least Bittern at Long Pond, Guthrie Co., 2 August 2003. Photograph by Jay Gilliam, Norwalk, IA.



American Avocets at Sandpiper Beach RA, Saylorville Lake, Polk Co., 30 September 2003. Photograph by Jay Gilliam, Norwalk, IA.

COMMENT

This report was distilled from a database of 2,017 individual records submitted by 53 field observers. These records came from 60 of Iowa's 99 counties.

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Old Whooping Crane Nesting Records for Iowa

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In this note I report three Whooping Crane (*Grus americana*) nesting records for the state of Iowa that may have been overlooked or unknown to contemporary researchers.

While sifting through old ornithological records from Minnesota, I came upon the unpublished journal extracts of Junius W. Preston in a filing cabinet in the store room of the Minnesota Ornithologists' Union (MOU). The paper entitled "Journal Extracts of J. W. Preston" is in two sections, the first recounting a collecting trip to Minnesota taken in 1883 and the second describing a similar trip made in 1885. At the beginning of the first section, Preston writes that while on his way to Minnesota on 4 May 1883, he found a pair of Whooping Cranes nesting near Eagle Lake, IA.

"I walked to a large marsh S.E. from Crystal Lake 7 miles and east from Eagle Lake, took set 1/2 of Whooping Cranes eggs from the center of the marsh. The nest of dry grasses heaped in a compact fashion was placed in a portion of the marsh which had been covered by water but which had settled away and left it on the sod. There were several nests of W.C. in the marsh but it was getting so late I could not hunt them."

(Note: The notation exemplified by "1/2" was common in the days of egg collecting. The "1" refers to the number of clutches this particular bird has produced, while the "2" would indicate the number of eggs. Hence, 1/2 means Preston has taken two eggs from this first clutch.)

The region Preston describes here is just east of Eagle Lake in Hancock County in north-central Iowa — an area he visited often. At the time, this was an expansive, low-lying marsh with a great variety of breeding prairie and marsh birds.

Evidently, this 1883 Whooping Crane nesting record is not in the current Iowa ornithological literature. In an 1893 paper, Preston wrote of finding a Whooping Crane nest "years ago" south of Crystal Lake (Preston 1893). This vague mention may be a reference to the 1883 record because Eagle Lake is almost directly south of Crystal Lake. Anderson (1907) notes several Whooping Crane breeding records but not Preston's. Dinsmore (1994) summarizes eleven Iowa Whooping Crane nesting records between 1868 and 1894, but none are from 1883, and Kent and Dinsmore (1996) reiterate this data.

The majority of Preston's journal extracts are devoted to his travels in Minnesota. Only the Whooping Crane account quoted here and a few other short passages refer to Iowa. The complete manuscript is referenced by Thomas S. Roberts (1932) who says the two chapters now in the possession of the MOU were part of a larger work. After Preston's death in 1917, his widow sent the Minnesota portions to Roberts, but the whereabouts of the remainder of Preston's journals are unknown to me. Most of Preston's egg collection was sold to Judge Richard Magoon "R. M." Barnes, then editor of the journal *The Oologist*, who had a substantial collection of eggs and specimens already in his possession. After Barnes died, the majority of that collection was donated to the Chicago Field Museum, but a search of their catalog indicates that Preston's Iowa Whooping Crane eggs are not there.

In addition to the Whooping Crane nest, Preston also mentions taking a Sandhill Crane (*G. canadensis*) nest from the marsh, reports collecting a Passenger Pigeon (*Ectopistes*

migratorius) in the general vicinity, and later writes that he saw another pair of Whooping Cranes south of the marsh in “the Des Moines valley” in 1885.

As I was searching various museum collection databases for Preston’s Whooping Crane eggs, I came across two additional records of nesting Whooping Cranes in Iowa. The first was a set of two Whooping Crane eggs currently in the collection at the California Academy of Sciences in San Francisco (CAS EggNest #6749). They were taken by John Krider in the “western part” of Iowa on 10 May 1871. The second is a set of eggs in the collection of the Museum of Vertebrate Zoology, University of California, Berkeley — also from 1871 — collected by W. C. Pride, although no specific location is given (MVZ #7956, Accn #7700). While Dinsmore (1994) and Kent and Dinsmore (1996) show a single Whooping Crane nesting record from 1871, it is from Black Hawk County in the eastern part of the state and those eggs are now preserved in the Slater Museum of Natural History in Seattle (PSM #13691).

Together, these three records bring the number of Whooping Crane nesting records known for Iowa from 11 to 14.

Thanks to Paul Hertzell for his comments on an earlier draft of this paper.

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Identifying Piping and Snowy Plovers

Michael D. Overton

Editor’s note: The 2003 Publications Committee survey results of the IOU membership listed bird ID articles in IBL as being number five in importance to those who responded. Stephen J. Dinsmore has agreed to serve as the Bird Identification Editor for Iowa Bird Life. These two similar species of plovers provide an excellent opportunity to present the first in a series of articles on difficult bird identifications for beginning and experienced birders alike. Michael D. Overton authored this first article. KAN

Separating basic (nonbreeding) adult plumage Piping Plovers (*Charadrius melodus*) and Snowy Plovers (*Charadrius alexandrinus*) can be fairly straightforward, but only if the observer has previous experience and if multiple field marks are compared. Unfortunately, previous experience with both species isn’t that easy to come by for many Iowa birders. Snowy Plover is an accidental species in Iowa with eight accepted records, all spring va-

grants (Dinsmore 1997; Kenne 2000; Kent and Dinsmore 1996). Piping Plover is a rare but regular statewide migrant and a rare breeder in western Iowa (Kent and Dinsmore 1996). Another hindrance in identification results from the treatment these species receive in popular field guides. The coverage in *The Sibley Guide to Birds* (Sibley 2000) is the most complete, while the entries in the *National Geographic Field Guide to the Birds of North America* (National Geographic 2002) and in *A Field Guide to the Birds of Eastern and Central North America* (Peterson 2002) lack several useful details.

Use of Table 1 may be helpful to some birders in sorting through differences between Piping and Snowy Plovers.

Table 1. Summary of definitive field marks for basic plumage Piping and Snowy Plovers

Field mark	Piping Plover	Snowy Plover
Shape and posture	Pot-bellied and plump. Posture more horizontal.	Barrel-chested and slender-bellied. Posture vertical.
Bill (Note: both species have all black bills in basic plumage.)	Short and broad. Ratio of bill length to bill thickness at base < 2:1.	Long and thin. Ratio of bill length to bill thickness at base > 2:1.
Head	White post-ocular line is short, broad, and triangular.	White post-ocular line is long, thin, and of uniform width.
"Breastband"	Widens near throat, consequently appears to point down.	Pointed near throat, consequently appears to point up.
Mantle (back)	Very pale gray-brown	Pale brown
Legs	Appear proportionately short. Orange to yellow-orange.	Appear proportionately long. Gray-black sometimes mottled with gray-yellow.
Dorsal wing surface	White wingstripe broader. Wingstripe extends nearly to leading edge of wing.	White wingstripe narrower. Wingstripe fades well before leading edge of wing.
Ventral wing surface	Narrow, dark trailing edge that extends to secondaries.	Broad, dark trailing edge that extends to tertials.
Uppertail coverts	Predominately white with slight darkening in median area.	Pale brown on central two-thirds, narrow white margins.
Flight call	Peep often drowned out and lost in calls of other shorebirds.	Koo-WHEET distinct and usually stands out.

Tips for beginning birders when encountering any similar species in the field include (1) comparing as many field marks as possible because determinations that rely on a single field mark are often in error and (2) identifying a bird based on what is actually observed rather than on what is expected. Misidentifications happen to all birders and can be viewed as a positive part of birding because the ensuing discussions are beneficial and educational to all.

Thanks to Thomas H. Kent for encouraging me to write this article and to Stephen J. Dinsmore and James J. Dinsmore for their insightful comments and suggestions after reviewing the manuscript.

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Sedan Bottoms Wildlife Management Area

Tom Johnson

The **Sedan Bottoms Wildlife Management Area** is along the Chariton River in southern Appanoose County. Some of this land has been in private wetlands for years but the area received a big boost in 1997 when the Mellon Foundation donated \$1 million to the Conservation Fund, which had worked with the Iowa Department of Natural Resources (DNR). A total of 2,600 acres was purchased where the historic town of Sedan was located. Sedan was a company town where pickle cucumbers were raised and the railroad was located. Another 1,800 acres has been added to the site since the original purchase. An abandoned railroad right-of-way provides an excellent foot path and a historic Morman trail crossing is found on the southeastern side of the area.

Birds of the Sedan area are found on both public and private lands. You may wish to begin your tour of the area by leaving the town of Exline at the extreme western side of Appanoose County and driving east on 570th Street (County Road J51). Northern Mockingbird has been found in upland pasture land in this area in most years. One of the most reliable places has been at the 570th Street (J51) and 250th Avenue intersection and one-half mile on either road (Figure 1, Area 1). Traveling further east on 570th Street, Henslow's

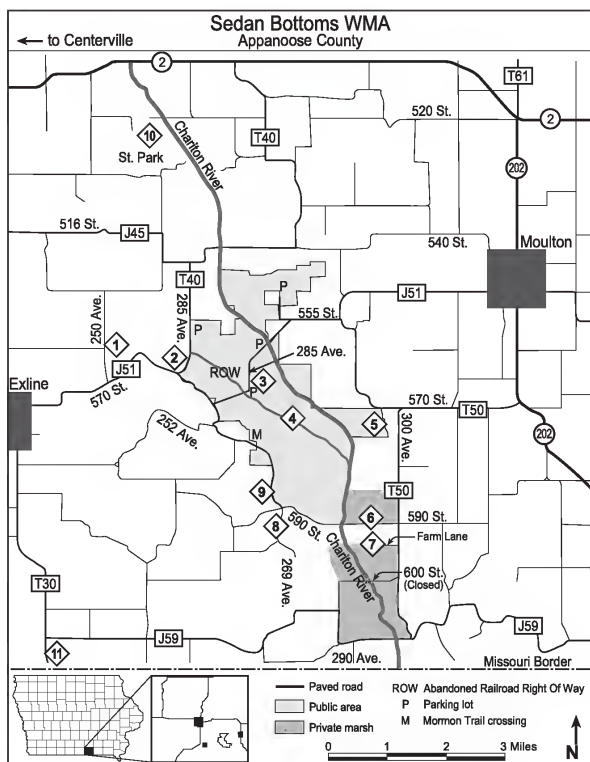


Figure 1. Sedan Bottoms Wildlife Management Area and surrounding birding areas: (1) Northern Mockingbird area, (2) Henslow's Sparrow habitat, (3) cement pad, (4) railroad right-of-way, (5) Buckshot Lake, (6) shallow marsh, (7) Prothonotary Warbler area, (8 and 9) deciduous areas, (10) Sharon Bluffs State Park, (11) Missouri-Iowa line.

Sparrow can be found at the intersection of 570th Street and 265th Avenue (T40) (2). Stop and listen for them.

Continue southeast on 570th Street for a short distance and turn left onto 285th Avenue where you will come to an abandoned railroad right-of-way and cement pad (3). This is a good shorebird area in most years because of the large amount of wetland available. You may scope from the pad or walk southeast 300 yards to get to the best shorebird area (4). Red-necked Phalarope and White-faced Ibis were seen in 2001 and they were the first records for Appanoose County. All regular herons and egrets are found during migration.

Continue north and northeast on 285th Avenue as it becomes 555th Street, then 290th Avenue, and, believe it or not, 570th Avenue again (follow the map)! On the right is Buckshot Lake (5) where Nelson's Sharp-tailed Sparrows were abundant the past two falls. As many as 12 were found in a three-week period in September. Black-crowned Night-Heron was present all summer in 2003. Soras and shorebirds are plentiful. Lark Sparrow, Short-

eared Owl, and Northern Harrier can also be found. Yellow Rail has been found twice in this area.

Continue east until the road intersects with 300th Avenue and turn south. At the intersection with 590th Street, turn west. The bridge over the Chariton River is closed on this road. The shallow marsh north of 590th Street is private but it can be scoped from the road (6). This is usually the best of all the marshes. Cinnamon Teal and Common Moorhen are among the birds sighted here. Continue south on 300th Avenue for one-half mile. Scope from the top of the dike to Area 7. Prothonotary Warblers have nested in this area for the past seven years. Snowy Plover was seen in 2001. This is private land but permission to bird can be arranged.

Follow the map from 300th Avenue to 615th Street (Look south and begin your Missouri list!). Follow the roads numbered 615th Street to 290th Avenue to 605th Street to 269th Avenue. This route takes you north along the west side of the Chariton River until you are at Areas 8 and 9, which are good places for warblers and passerines. Pileated Woodpecker is common in these woods. Wooded habitat contains typical species such as Scarlet and Summer Tanager, Kentucky Warbler, Louisiana Waterthrush, and Willow Flycatcher.

If you are returning to Rathbun Lake, you may want to stop at **Sharon Bluffs State Park** (10) that bisects the Chariton River just south of Iowa Highway 2. This an oak-hickory forest with a Nature Center that is an excellent area during migration for warblers, vireos, flycatchers, and thrushes. Summer residents include Acadian Flycatcher; Cerulean, Kentucky, and Northern Parula Warblers; and Summer and Scarlet Tanagers.

Lake Rathbun and surrounding areas have great birding habitat, and wetlands are found along the western portions of the lake.

Golden Eagle has been found two of the last three winters south of Exline at the **Missouri-Iowa line** on T30 (11).

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The Glendale Cemetery Merlins

Robert I. Cecil

Merlins (*Falco columbarius*), as Lee Schoenewe observed recently on the IOU listserv, are notorious for being pugnacious and solitary raptors. Few Iowa birders encounter a Merlin more than once or twice a year, and far fewer still have seen more than one at the same time. When at least six were found congregating this winter at Glendale Cemetery in Des Moines, it was an occurrence previously unreported in Iowa ornithology.

I had been aware that at least three Merlins had been at Glendale this winter, but had it not been for Scott Allen being there in the early evening, we would probably have missed this remarkable event. I wonder, though, if perhaps this has been taking place for several years. I live less than a mile from Glendale and visit it very frequently. Over the years, Merlin has been my most frequently encountered raptor there, even when including common species such as Red-tailed Hawk and American Kestrel. All my sightings, as one might

expect, have been in the fall, winter, and spring, seasons when Merlin would be expected, but also seasons during which I am much more likely to visit.

On 12 Jan, late in the afternoon, while Scott was at Glendale hoping to photograph a Merlin, he came upon five perched in a leafless tree. Recognizing that this was unusual, he contacted Jay Gilliam, who in turn contacted me. Along with my son John, the three of us rushed over to see them. The sun was setting, but three of the birds, all females or immatures, were still in the original tree while two others, an adult male and another female or immature, had moved to nearby trees. The three birds sat calmly while they were watched and photographed, and while we discussed the event and speculated on the possible presence of others. The next day, six birds were seen at this location. Based on observations by numerous observers, it seems that this assembly of Merlins was made up of more than one race, indicating that it was not a family group. The presence of two adult males supports this conclusion. Following repeated observations over a several week period, Scott concluded that there was one adult male Taiga race bird, one female Taiga of unknown age, one Prairie race adult male, one adult female Prairie, and two first year female Prairie birds (2004). While identifying this highly variable species to race can be difficult, especially since intergrades occur, the Prairie race is paler overall than the Taiga race.

The conspecific Merlin of the Old World is known to congregate at roost areas during winter, but this behavior is apparently much less frequently encountered in North America. Although Wheeler (2003) notes that in the western United States it is "Mainly a solitary species, but a few birds may gather at night roosts," there seems to be little additional documentation of this behavior. Among other resources, I consulted *Life Histories of North American Birds of Prey* (Bent 1938). While there was no mention of communal roosting, one anecdotal account reported that "Pigeon hawks are notoriously bold, fearless, and unsuspecting; they allow a close approach when perched and will fly quite near a man in the open; hence they are often shot." This was our experience on 12 Jan — the three birds perched unconcerned until they decided to go to roost in nearby conifers. One whipped past us — just a few feet off the ground and just a few feet away, unnecessarily it seemed. It could much more easily have flown directly from the top of the tree in which it was sitting to the middle of the conifer where it landed.

The continuing presence of Merlins at Glendale Cemetery during the fall, winter, and spring raises an interesting question. Could they occur there during breeding season, as well? There is no confirmed evidence that they have summered here — indeed, Iowa's last accepted nesting record was from 1908 in Linn County, and the only other, from Poweshiek County, was before 1900 (Kent and Dinsmore 1996). Minnesota, however, has recently experienced an extension of the Merlin's breeding range. Once restricted to breeding in the northeastern corner, nests have recently been discovered in the northwest corner, and more significantly for Iowa, south to Minneapolis. In the summer of 2001, four nests were found in Minneapolis and 8 young were fledged (Svingen 2001). All the nests were found in conifers in old crow nests. The sprawling and serene Glendale Cemetery has many mature conifers and many crow nests. Encouragingly, Wheeler (2003) notes that a few winter in their breeding areas, particularly in urban areas of Canada. I think it is safe to say that Glendale Cemetery will be receiving more attention this spring and summer than in previous years.

Finally, while this has provided an unprecedented opportunity to participate in close-up study of Merlins, there has been a down side. Glendale cemetery has, over the years, produced numerous winter rarities and was once a great place to look for them. This fall,



Merlin (*Falco columbarius columbarius*) (taiga race) female at Glendale Cemetery in Des Moines, 1 January 2004. Photograph by Jay Gilliam, Norwalk, IA.

for example, a Spotted Towhee associated with a hundred or more sparrows and juncos in the cemetery's north edge near where the Merlins have most frequently been found — at least until I spotted the Merlins dining on a couple of juncos. Soon afterward, they all disappeared.

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Merlin (*Falco columbarius richardsonii*) (prairie race) female at Glendale Cemetery in Des Moines, 14 January 2004. Photograph by Scott Allen, Des Moines, IA.

California Gull at Spirit Lake

Shane S. Patterson

In early September of 2002, a Black-headed Gull (*Larus ridibundus*) took up fall residence at the north end of Spirit Lake in Dickinson County. Birders from around the state traveled to see this accommodating bird as it persisted in a placid bay along the Iowa-Minnesota border. Given that this gull had been relatively “cooperative” and “reliable” for several weeks by early October, I decided that this was an ideal excuse for a journey from Ames to the Iowa Great Lakes.

On 13 October, Katy and I stopped by “The Grade,” a road that had become well known for serving as a convenient viewing platform at Spirit Lake. Soon after our arrival, we were rewarded with good looks of the Black-headed Gull resting in the bay directly out from our car. While we were pleased to have found this bird with such ease, we wanted to stick around for a few more hours to see what else was lurking in the area. Fortunately, this delay enabled us to discover a few other unusual birds, many of which likely arrived because of very strong northwesterly winds of the previous two days. Most notable among these rarities was an adult California Gull (*Larus californicus*) in basic plumage.

Not long after we first encountered the Black-headed Gull, we detected another gull that differed from the many Ring-billed Gulls (*Larus delawarensis*) scattered around the bay. At the time, this bird was standing a considerable distance away from us near two jetties that separate the bay from the main part of Spirit Lake. What first captured our attention was the fact that the bird’s irises appeared to be dark. Also, the bird in question was clearly longer-bodied than the Ring-billed Gulls but shorter-billed and less bulky than a 3rd-basic Herring Gull (*Larus argentatus*) that was loafing in the same area. The legs were a subdued yellow, and the mantle stood out as being a bit darker than the light gray of the nearby Herring Gull and Ring-billed Gulls. The presence of these common “white-headed” gull species allowed for apt comparisons of size, structure, and color pattern. However, we waited for a closer look before drawing any conclusions.

Shortly after 2 p.m., the gull moved in close enough on the water to allow for examination at the 20x setting on our scope. We subsequently confirmed that the bird had dark irises, which were in obvious contrast to the pale irises of Ring-billed Gulls that we were viewing at a similar distance and magnification. Around the eyes, there was a small amount of dark smudging and streaking. Otherwise, the brown streaking (indicative of basic plumage) was limited mostly to the nape. The bird’s yellow bill featured both a black subterminal line and a red gonydeal spot. As noted in our initial observations, the medium-gray color of the back and upperwing stood out against the clean white tail and underparts. Also evident at this distance was the longer bill and greater overall length of the bird compared to the neighboring Ring-billed Gulls. Therefore, based on this combination of characteristics, we concluded that the bird was an adult-basic California Gull, a species that we had observed regularly in North Dakota during the previous spring and summer.

After affording us ample opportunity for study, the California Gull eventually wandered back to shallow water near the jetties before flying out beyond the bay around 3 p.m. This was the last that we saw of the bird, and I suspect that it did not linger for very long at Spirit Lake.

This constitutes the 13th record of California Gull in Iowa, beginning with an adult at

Credit Island, Scott County, in 1989 (Petersen 1991). Interestingly, whereas California Gulls summer and have nested in the Dakotas (Peterson 1995, Igl and Johnson 1997), Iowa is not alone in the infrequent occurrence of this species in the Midwest. In fact, Illinois, Minnesota, Missouri, and Wisconsin all have relatively few records (Jim Dinsmore pers. comm.). This is not surprising, since California Gulls of the northern Great Plains tend to follow a westerly or southwesterly migration route in the fall (Winkler 1996), thereby missing portions of the central United States. Furthermore, all of Iowa's records have taken place from September to December, even though the species has occasionally appeared from March to May in states to the south and east (Kent and Dinsmore 1996). Thus, this distinctive gull has, most likely, passed through Iowa unnoticed in the spring.

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Fifty Years Ago in Iowa Bird Life

James J. Dinsmore

Three articles make up much of the March 1954 issue of *Iowa Bird Life*. The lead article is actually reprinted from a 1952 book on the early days in Des Moines County. Author Hugh Orchard recalls the large flocks of Greater Prairie-Chickens he saw in that area in the 1880s and how easy they were to hunt. In the second article, James Hodges of Davenport discusses the bird records of Burtis Wilson. Wilson, who died in 1940, published an article on the birds of the Davenport area in the *Wilson Bulletin* in 1906 and eventually gave his journals to the Davenport Public Museum (now the Putnam Museum). Hodges used the 1906 paper and Wilson's journals to compile an interesting picture of Davenport's birdlife around 1900. The third article was a summary of the 1953 Christmas Bird Count. With 136 observers participating in 18 counts, new all-time highs were set, both for total species found (89) and species found on a single count (67 at Davenport) With a mild winter and much open water, 16 species of waterfowl were found, helping to produce the record counts.

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Mississippi Kite near nest in Des Moines, Polk Co.,
9 August 2003. Photograph by Jay Gilliam, Norwalk, IA.

ANNUAL MEMBERSHIP DUES (renewable yearly): Fledgling (students) \$15, Goldfinch \$20, Bluebird \$35, Oriole \$50, Egret \$75, Osprey \$100, Bald Eagle \$250, and Peregrine Falcon \$500+. Additional family members, \$4 per person. Membership dues entitle members to receive *Iowa Bird Life* and *IOU News* quarterly and to vote and hold office in the Union. Contributions are tax deductible to the extent allowed by law. Send subscriptions, membership payments, back issue requests, or address changes to David C. Edwards, 2308 State Avenue, Ames, IA 50014 (Dave@dandje.org).

INSTRUCTIONS TO AUTHORS: Original manuscripts, notes, letters (indicate if for publication), editorials, and other material relating to birds in Iowa should be sent in Word or WordPerfect to the editor. Research manuscripts will be sent for peer review. Submission of material should be by e-mail attachment or IBM-formatted 3.5" diskette; alternatively, by mail, typed or handwritten.

Photos and graphics: Submit photos and slides preferably as TIFF (*.tif) images or as high resolution JPEG (*.jpg) images in e-mail attachment, on 3.5" diskette or CD, or by mail. All photos, slides, and graphics will be returned.

Send all materials other than seasonal field reports to Kayleen A. Niyo at Kay@KayNiyo.com or by mail to 25100 Sunset Lane, Evergreen, CO 80439. Deadlines for submission are **January 1 for winter issue (Vol. 1)**, **April 1 for spring issue (2)**, **July 1 for summer issue (3)**, **October 1 for fall issue (4)**. Send seasonal field reports to field reports editors by deadlines listed on inside front cover.

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CHRISTMAS BIRD COUNT: Deadline for receipt of reports is 15 January. For forms and instructions, contact Aaron Brees, Christmas Bird Count Editor, 8712 Carole Circle, Apt. 14, Urbandale, IA 50322 (abrees@hotmail.com).

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UPCOMING MEETINGS OF THE IOWA ORNITHOLOGISTS' UNION: 14–16 May 2004, Spring Village Creek Bible Camp, Lansing, IA

DESIGN: Lynn Ekblad, Ames, IA

GRAPHICS: Richard Beachler, Boone, IA



*Le Conte's Sparrow at wetlands south of Cumming in Warren Co.,
5 October 2003. Photograph by Jay Gilliam, Norwalk, IA.*

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